

FIG. 1

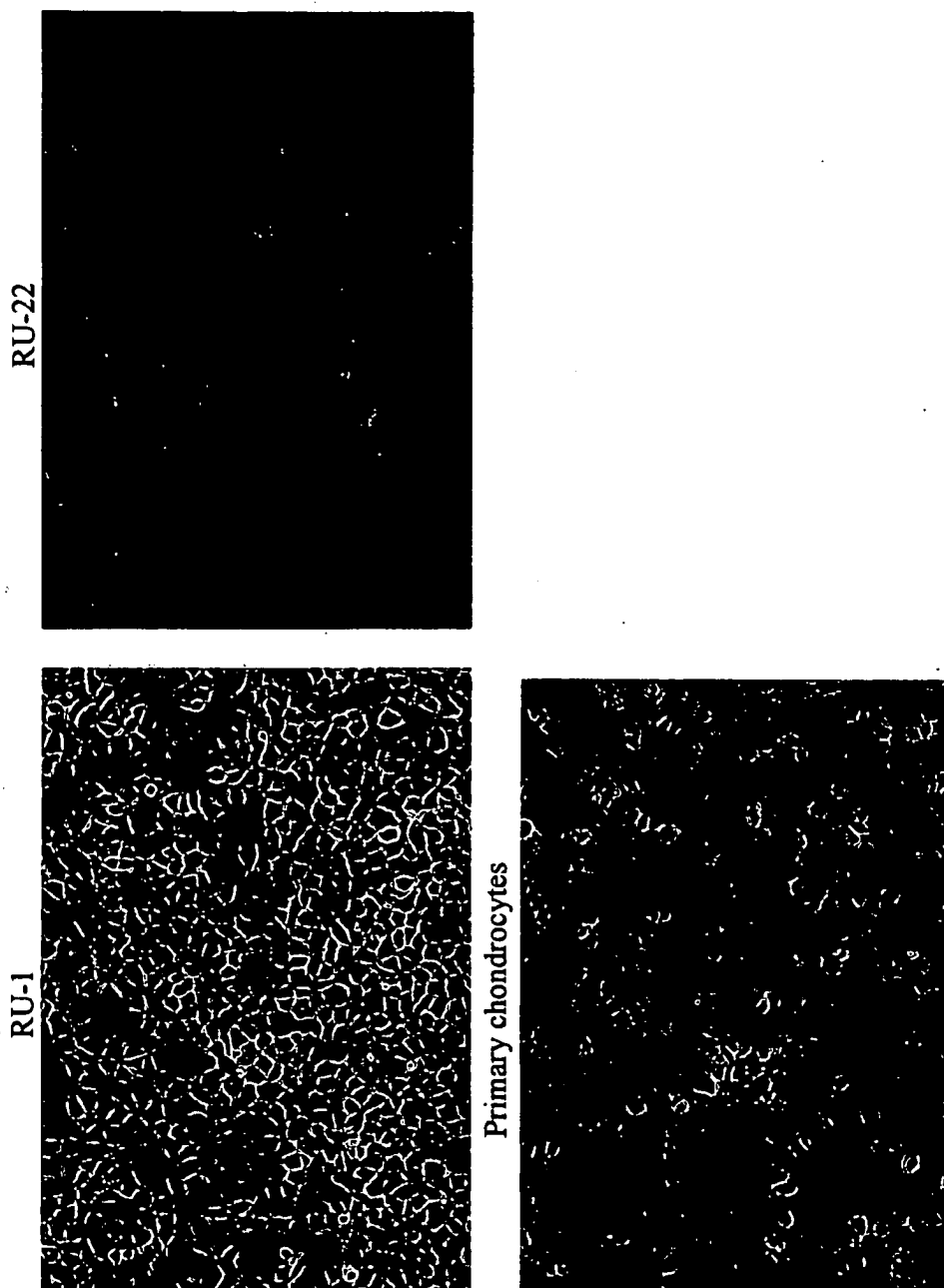
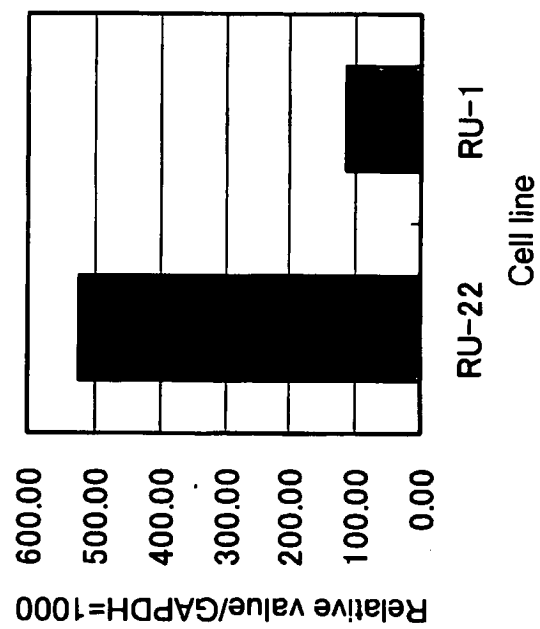


FIG. 2

A Expression of type II collagen in the Runx2/Cbfa1- and p53-deficient mouse-derived chondrocyte cell lines



B Expression of type X collagen in the Runx2/Cbfa1- and p53-deficient mouse-derived chondrocyte cell lines

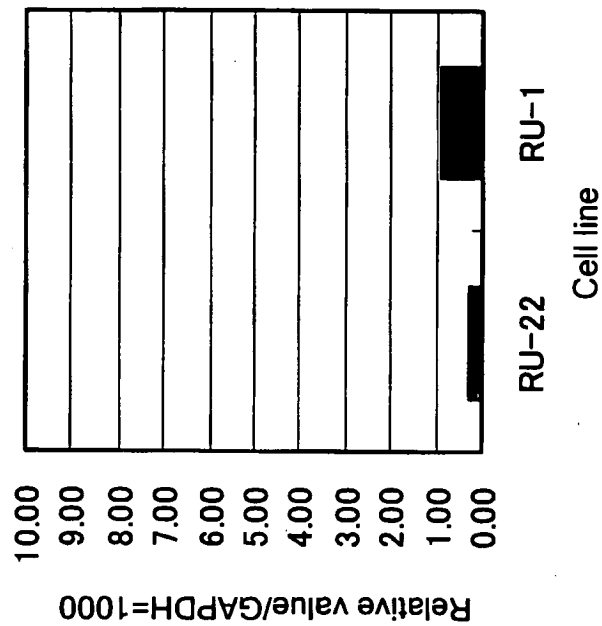
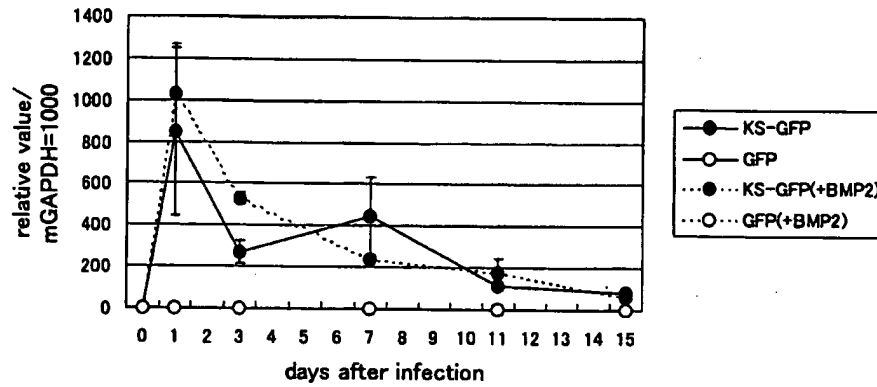


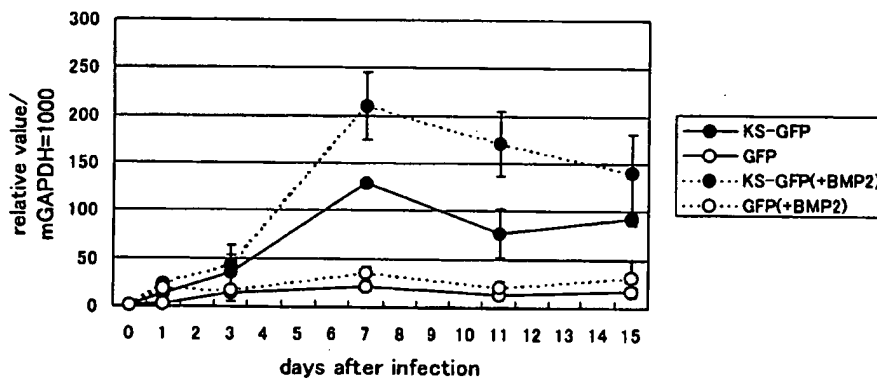
FIG. 3

A

Cbfa1



PTH/PTHrPR



TypeX Collagen

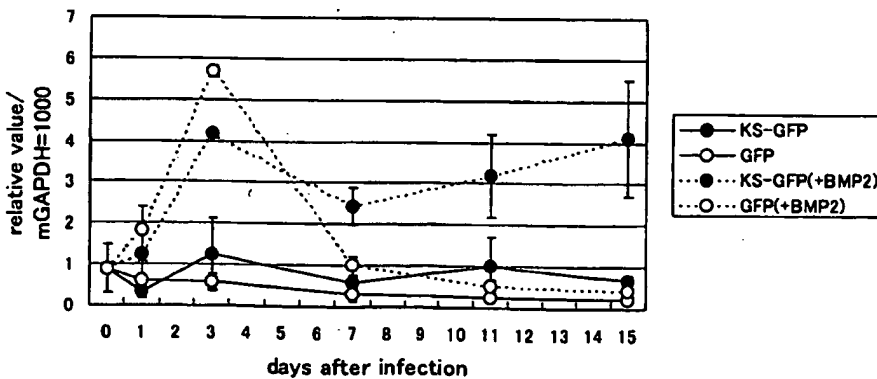
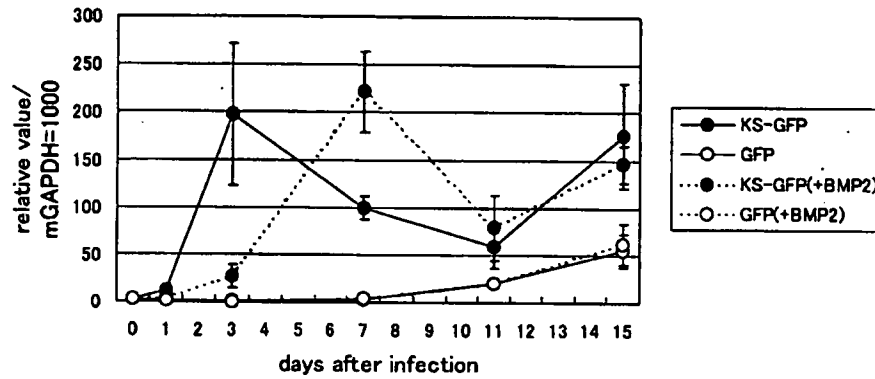


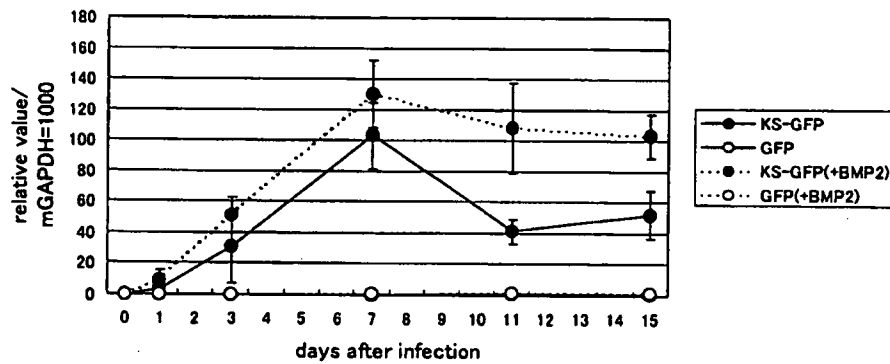
FIG. 3 (cont.)

B

MMP13



ALP



BSP

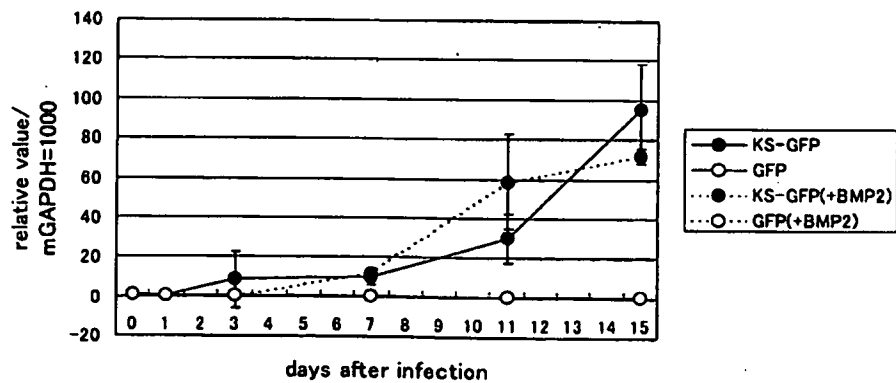


FIG. 4

A

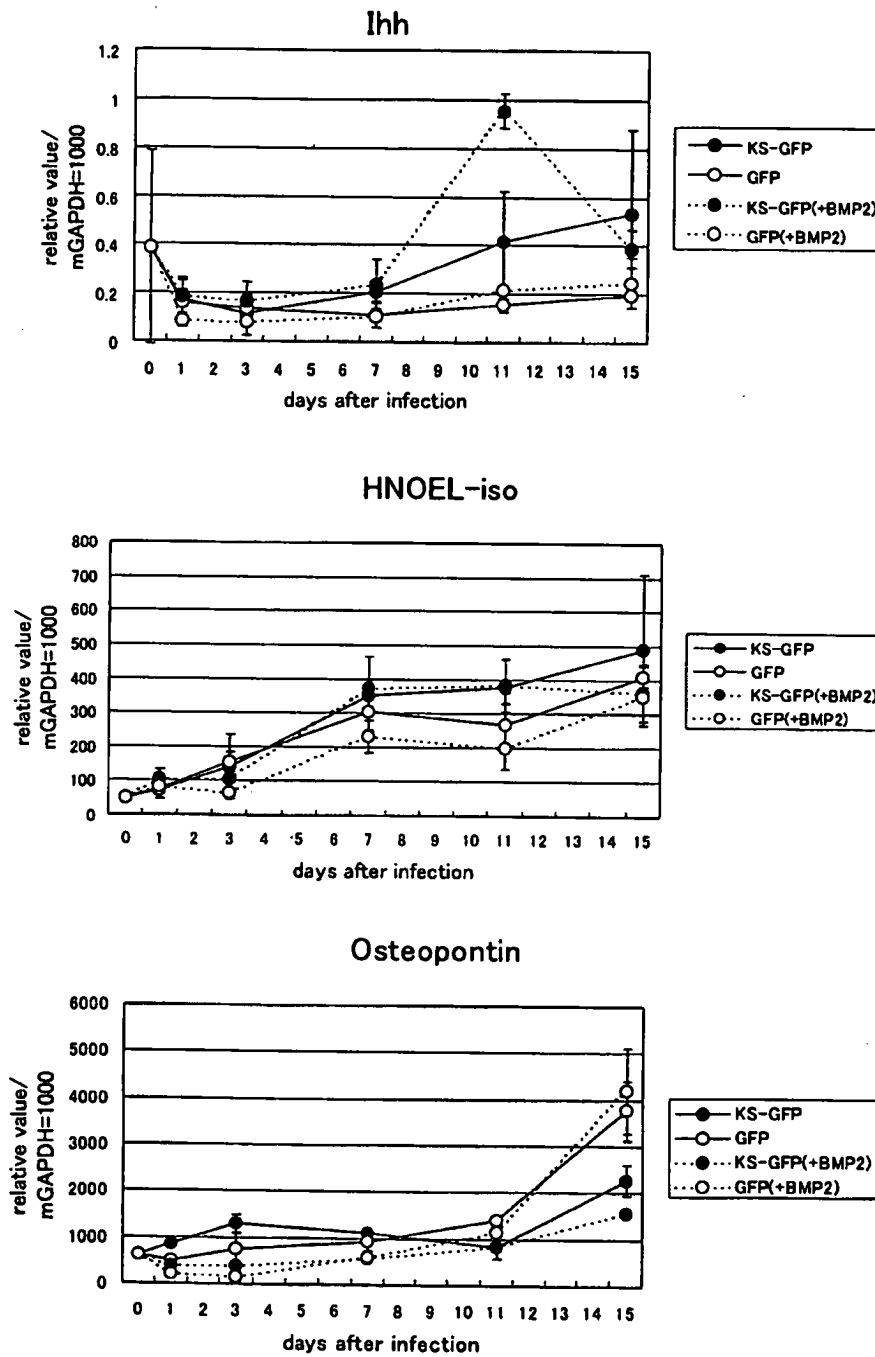
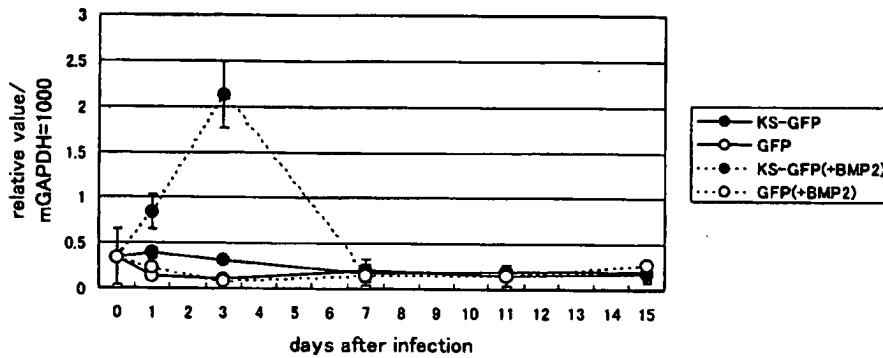


FIG. 4 (cont.)

B

IL11



Osteocalcin

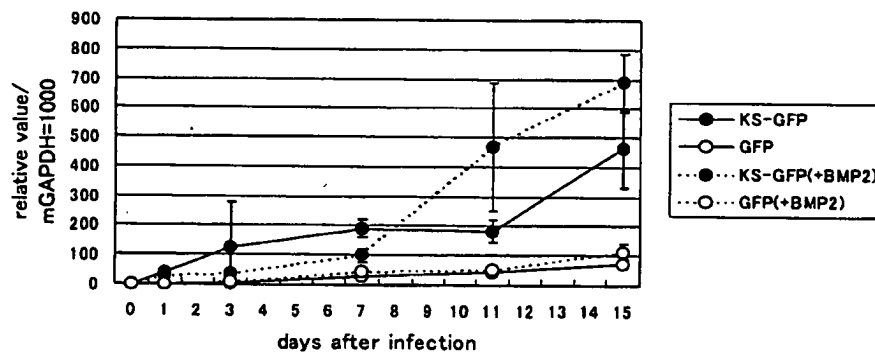
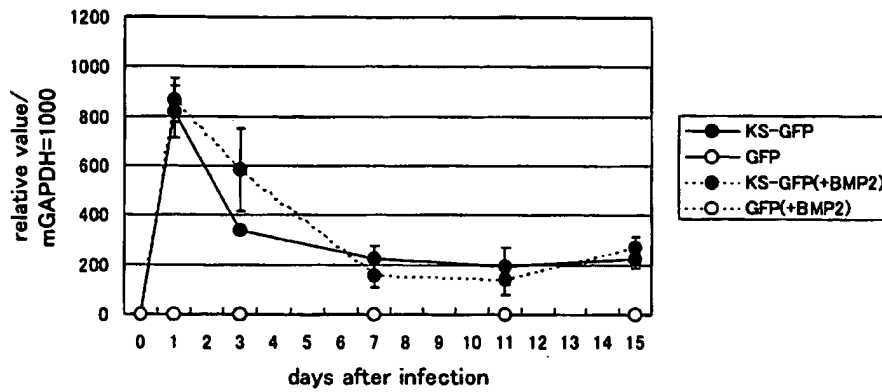


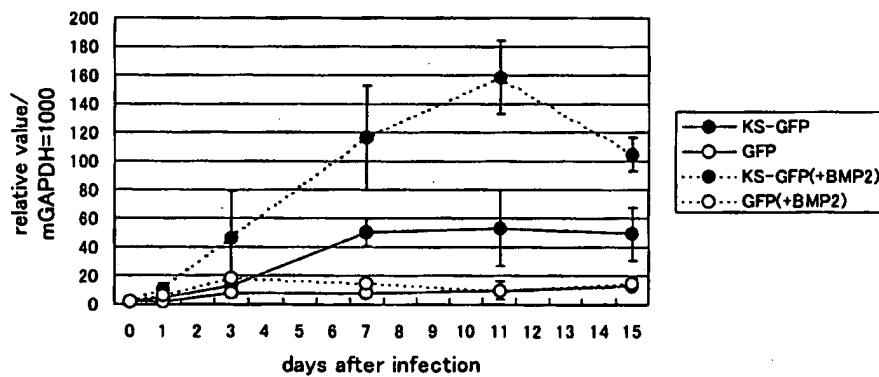
FIG. 5

A

Cbfa1



PTH/PTHrPR



TypeX Collagen

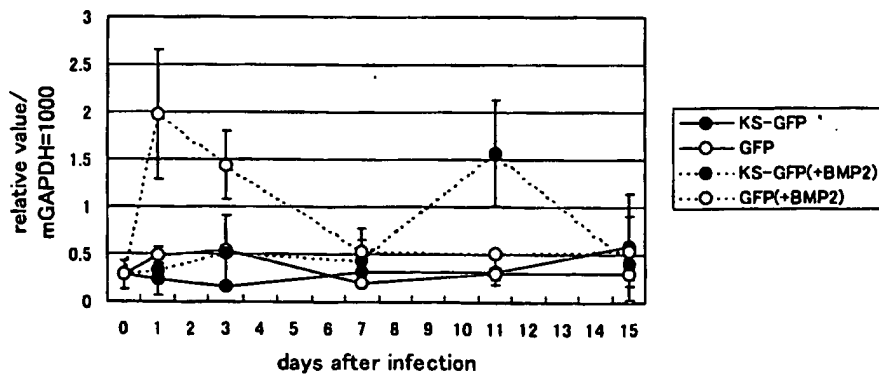
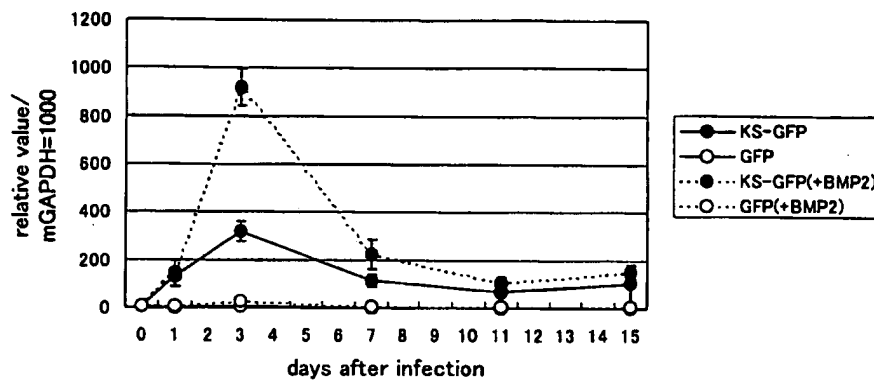


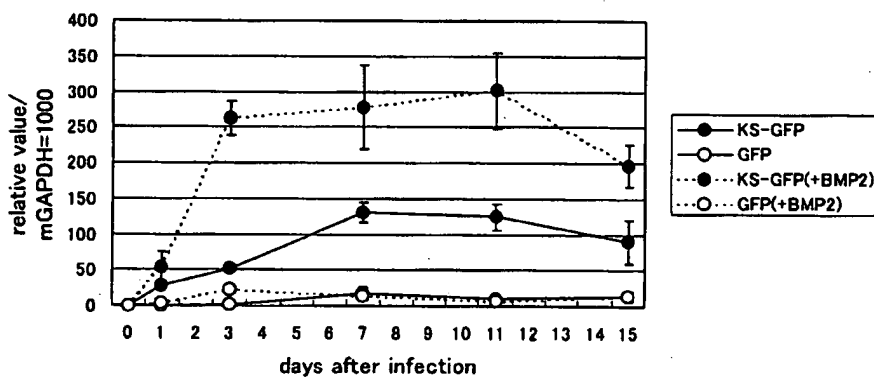
FIG. 5 (cont.)

B

MMP13



ALP



BSP

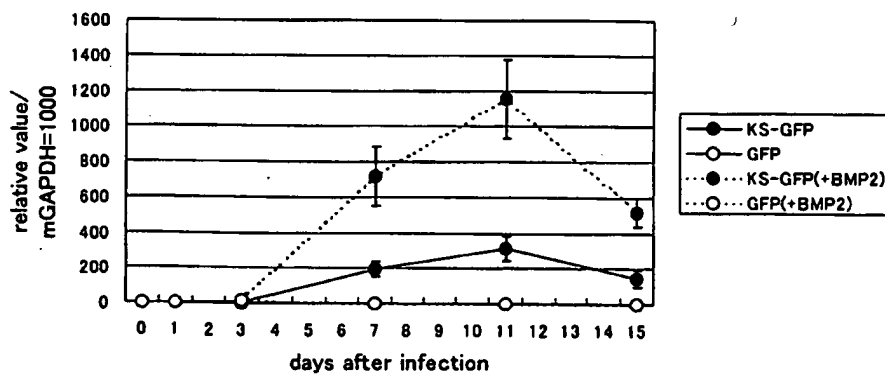
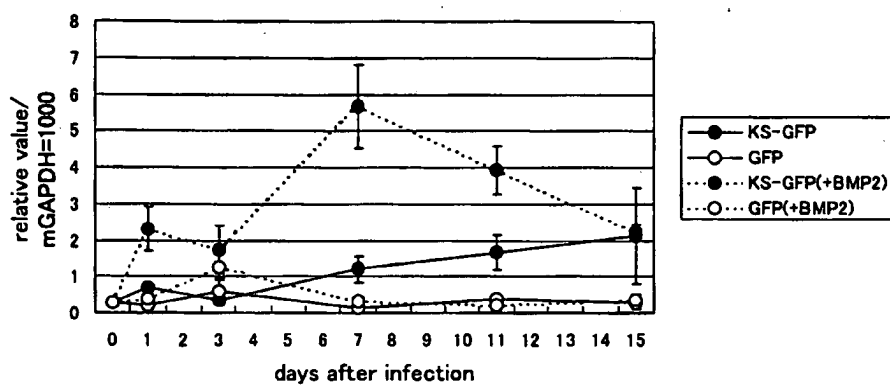


FIG. 6

A

Ihh



HNOEL-iso.

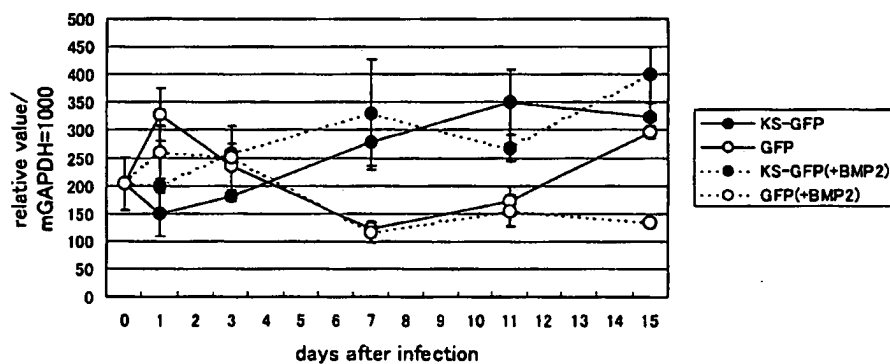
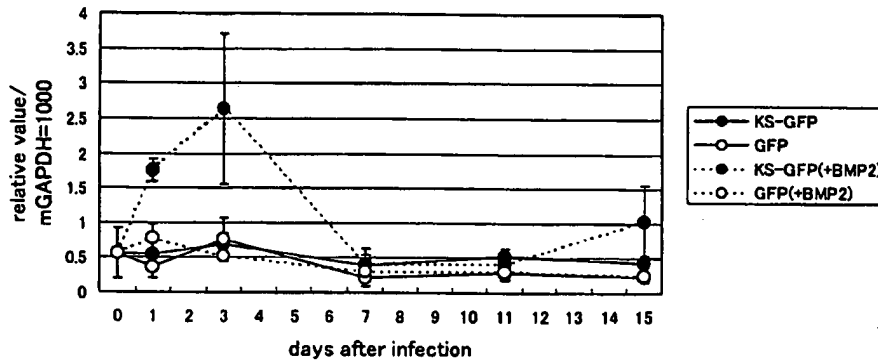


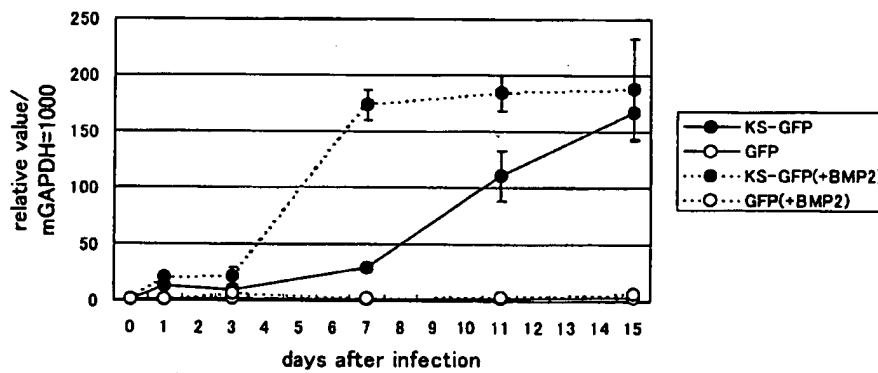
FIG. 6 (cont.)

B

IL11



Osteocalcin



Osteopontin

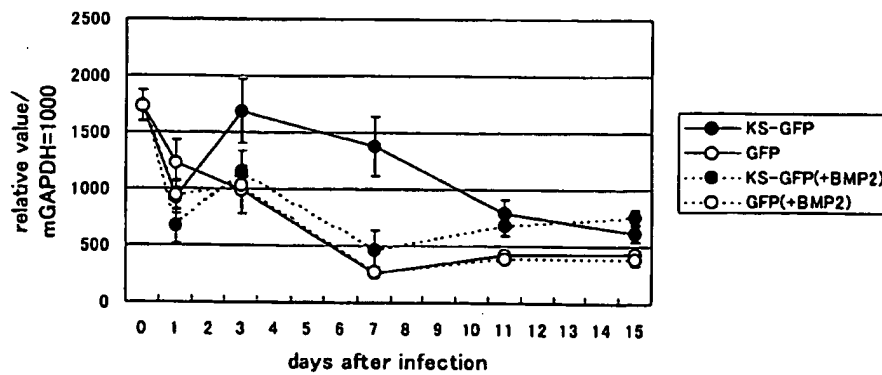
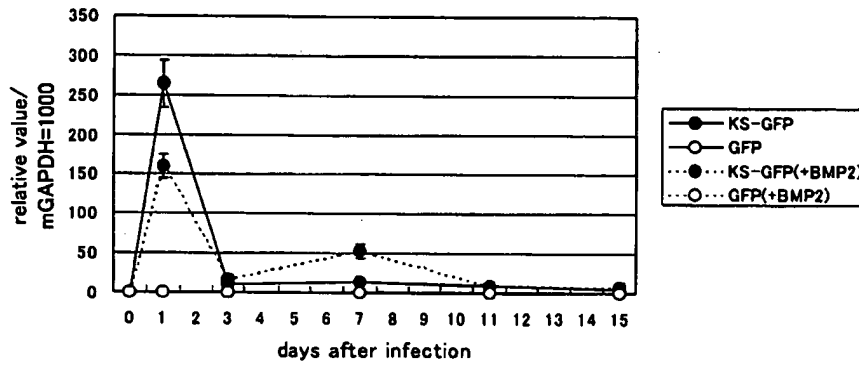


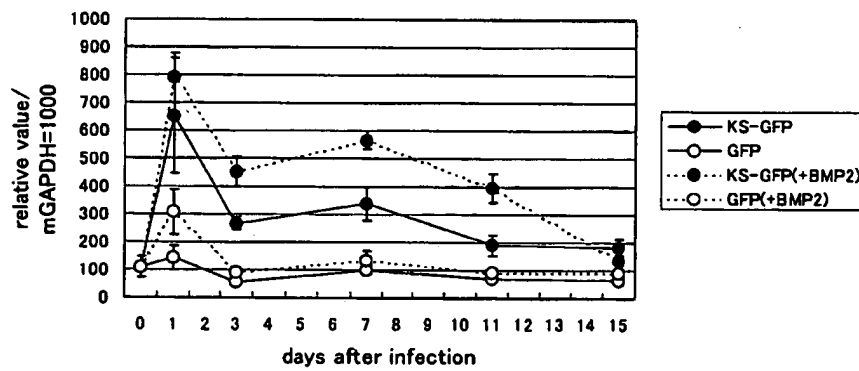
FIG. 7

A

Cbfa1



PTH/PTHrPR



TypeX Collagen

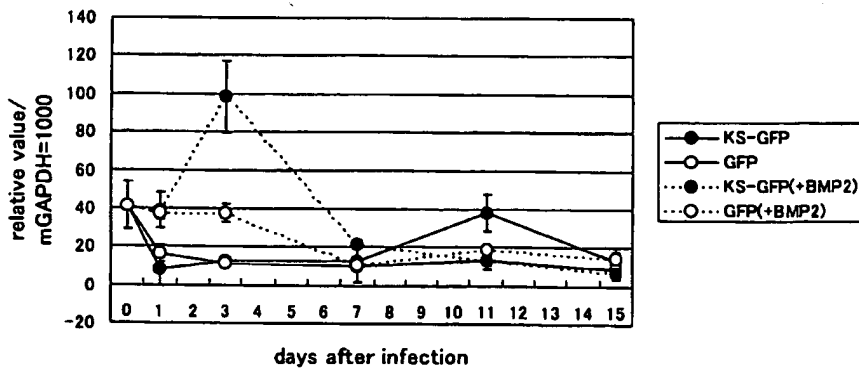
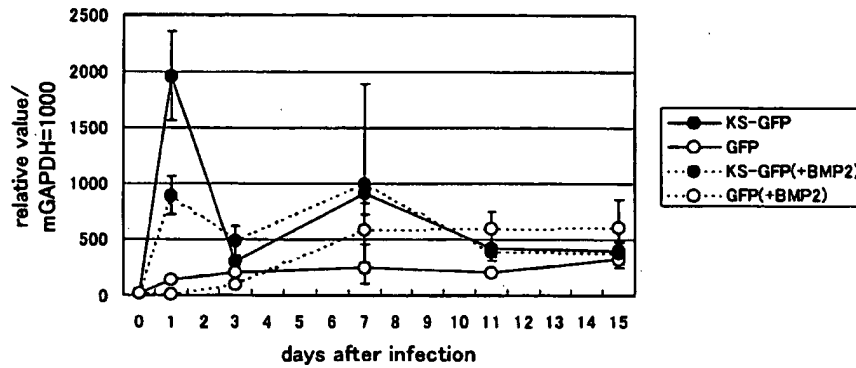


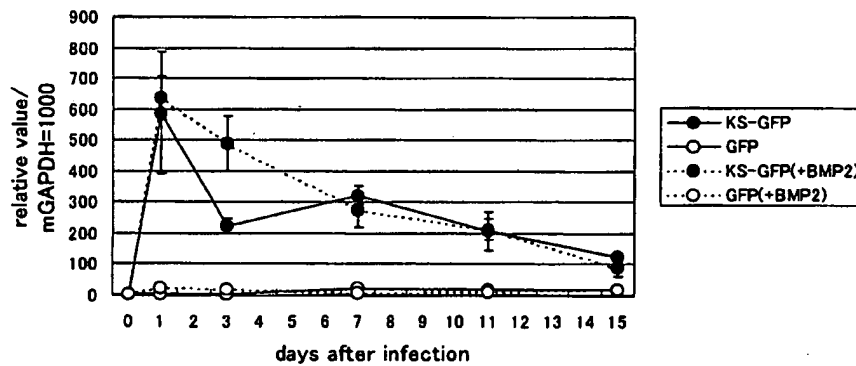
FIG. 7 (cont.)

B

MMP13



ALP



BSP

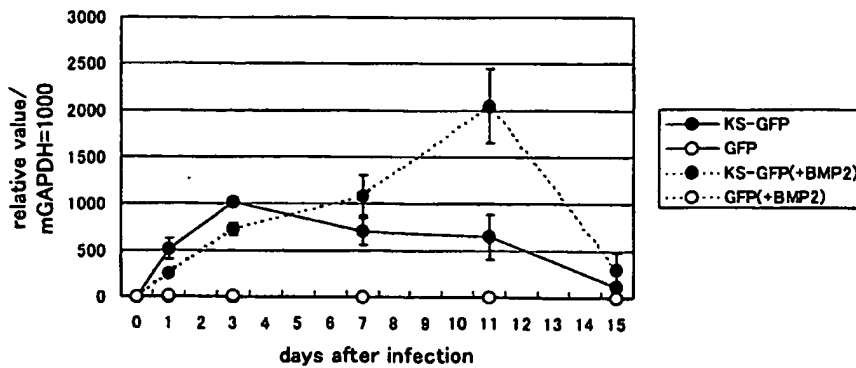
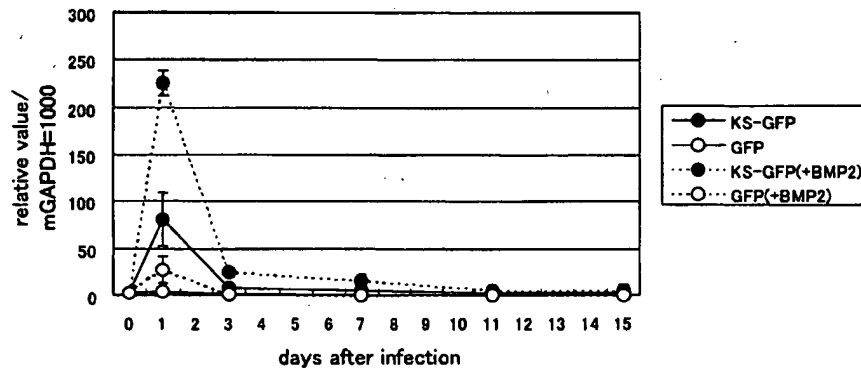


FIG. 8

A

Ihh



HNOEL-iso

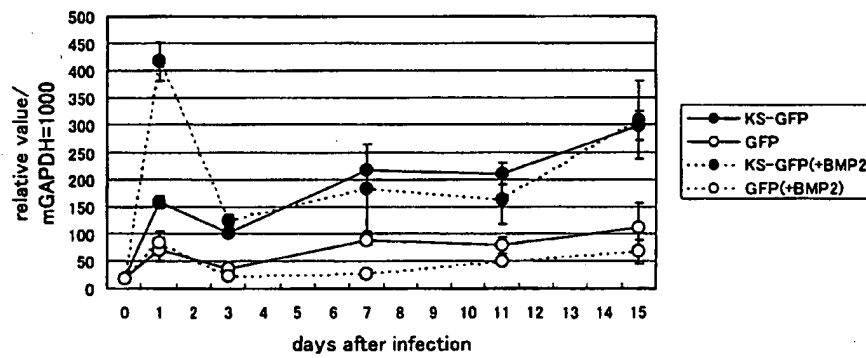
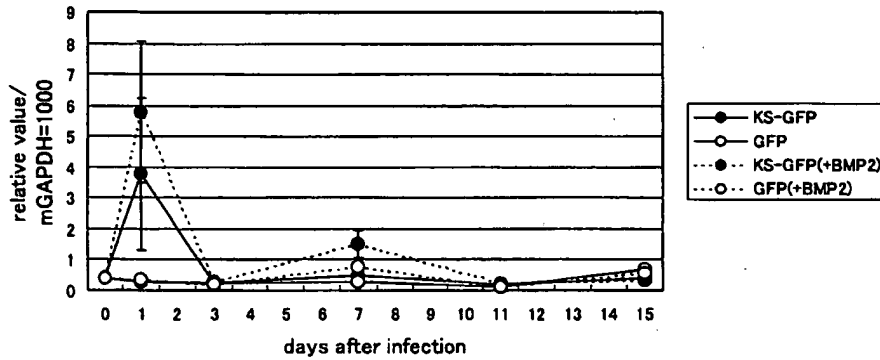


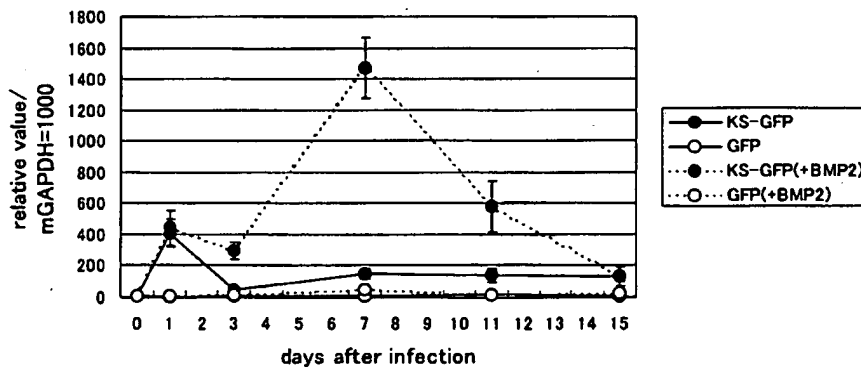
FIG. 8 (cont.)

B

IL11



Osteocalcin



Osteopontin

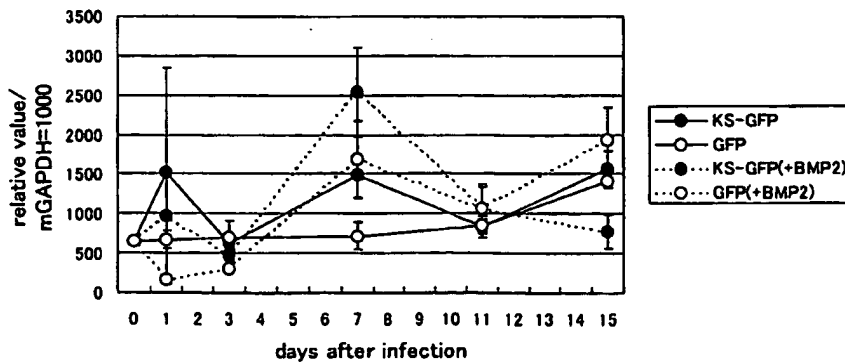


FIG. 9

Genes induced in RU-1 chondrocyte cell line		
Induction factor	Gene name	Accession No.
2.1	alkaline phosphatase 2, liver	AA517588
2.1	WNT1 inducible signaling pathway protein 2 (WISP 2)	AA754979
1.8	RIKEN cDNA 231008Jf6 gene (Tem8)	AA416380
Genes induced in RU-22 chondrocyte cell line		
Induction factor	Gene name	Accession No.
1.9	DNA segment, Chr 13, Wayne State University 123, expressed (kEST)	AA387280
1.8	MYB binding protein (P160) 1a (MYBbp1a)	AA607245
1.7	RIKEN cDNA 3230402K17 gene (Nagpl 40)	AA415905
1.7	alkaline phosphatase 2, liver	AA517588
Runx2/Cbfa1-induced genes in primary chondrocytes		
Induction factor	Gene name	Accession No.
92.12	"MUS MUSCULUS INTERLEUKIN 11 (IL11), MRNA"	NM 008350
36.83	MMBRP39 M MUSCULUS MRNA FOR BRP39 PROTEIN	X93035
27.47	"MUS MUSCULUS PLACENTAL GROWTH FACTOR (PGF), MRNA"	NM 008827
22.02	"MUS MUSCULUS HEMOPOIETIC CELL KINASE (HCK), MRNA"	NM 010407
19.55	"MUS MUSCULUS ALKALINE PHOSPHATASE 2, LIVER (AKP2), MRNA"	NM 007431
9.24	"MUS MUSCULUS INDIAN HEDGEHOG HOMOLOG, (DROSOPHILA) (HH), MRNA"	NM 010544
7.71	"MUS MUSCULUS MATRIX METALLOPROTEINASE 13 (MMP13), MRNA"	NM 008607
7.63	"MUS MUSCULUS LYSYL OXIDASE-LIKE PROTEIN 2 MRNA, PARTIAL CDS"	AF117951
7.01	"MUS MUSCULUS PROTEIN TYROSINE PHOSPHATASE, RECEPTOR-TYPE, F INTERACTING PROTEIN, BINDING PROTEIN 2 (PPFIBP2), MRNA"	NM 008905
6.48	"MUS MUSCULUS WNT1 INDUCIBLE SIGNALING PATHWAY PROTEIN 1 (WISP1), MRNA"	NM 018865
5.06	"MUS MUSCULUS UDP-N-ACETYL-ALPHA-D-GALACTOSAMINEPOLYPEPTIDE N-ACETYLGALACTOSAMINYLTTRANSFERASE 3 (GALNT3), MRNA"	NM 015736

FIG. 10

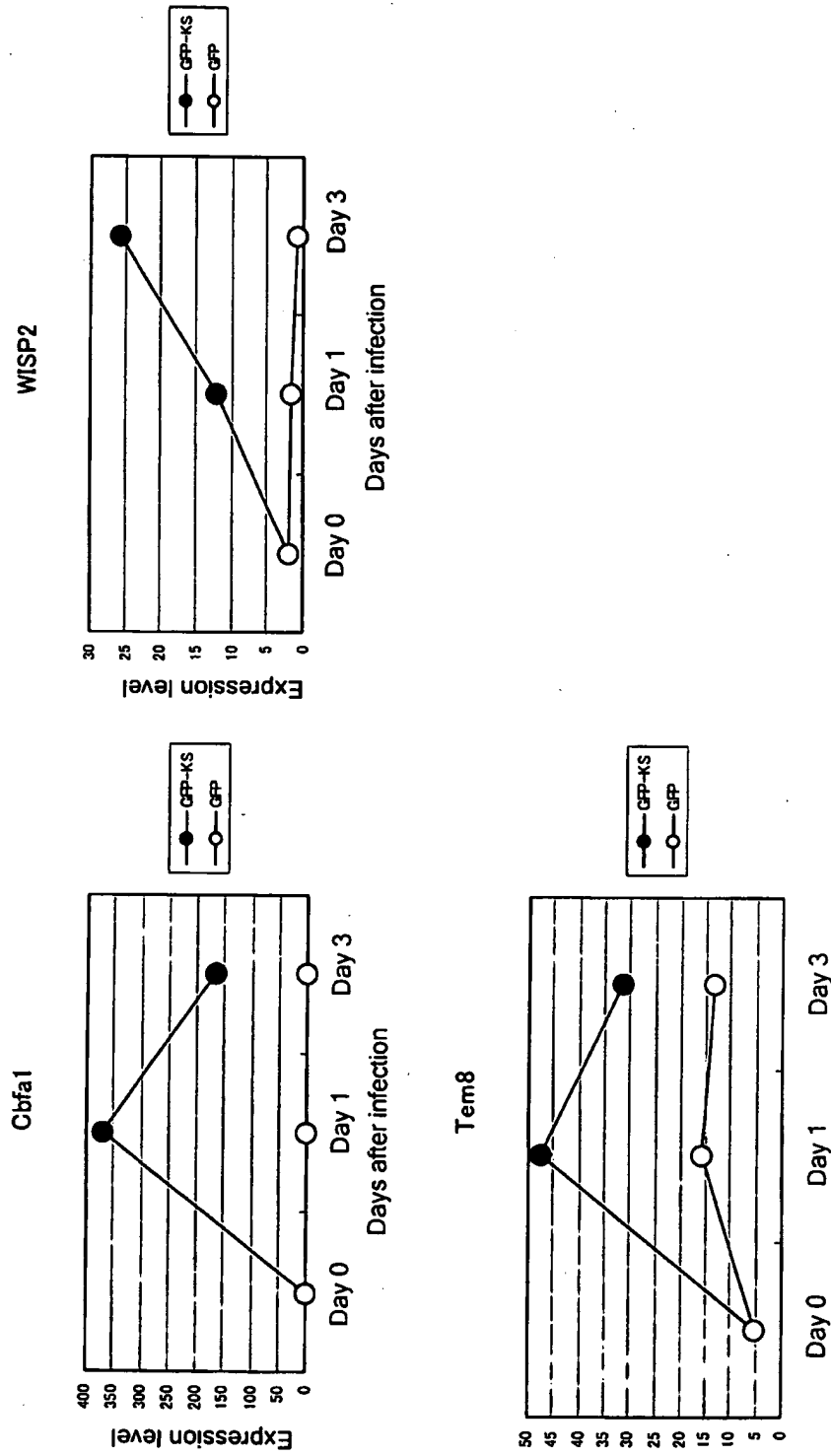


FIG. 11

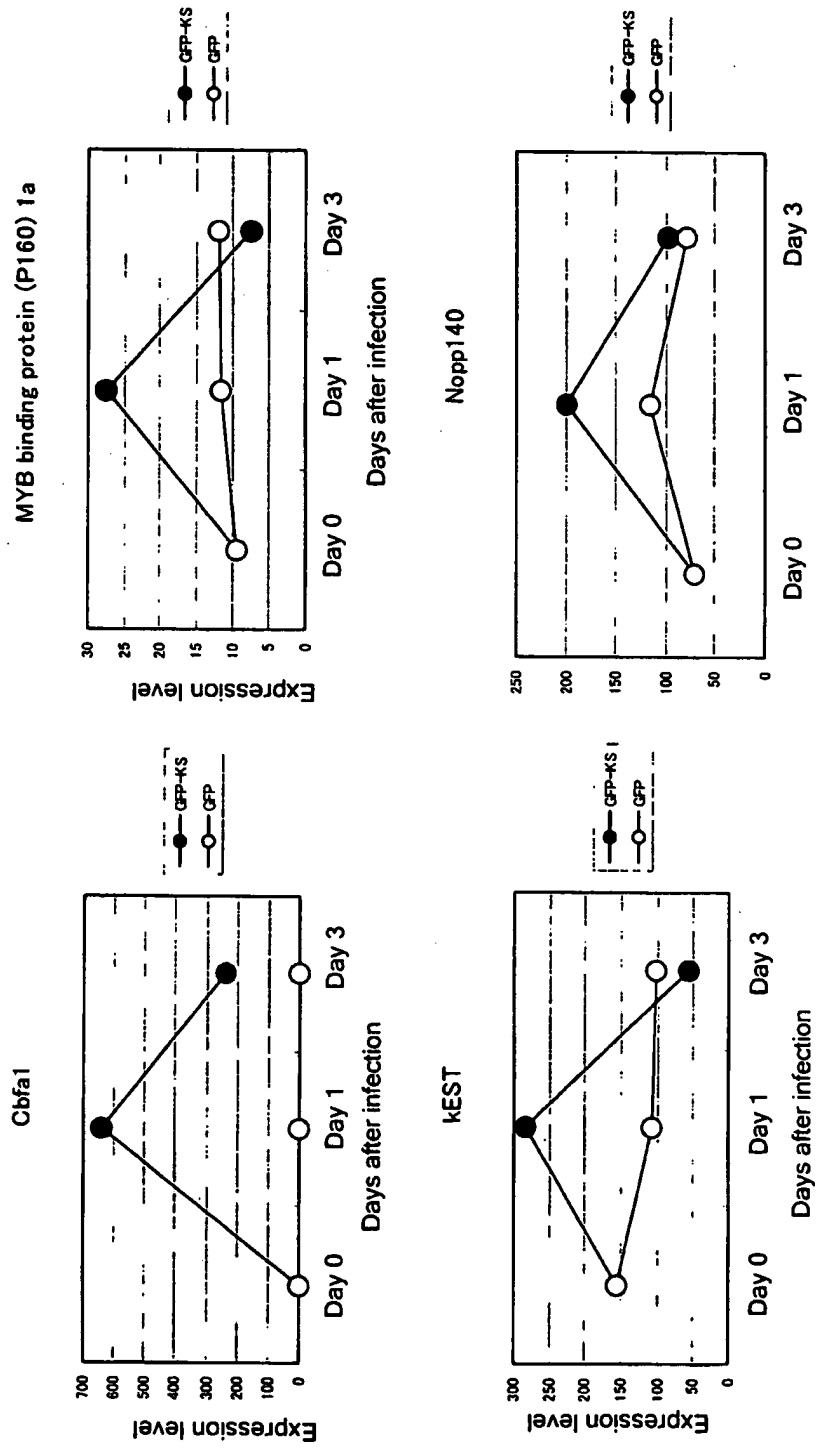
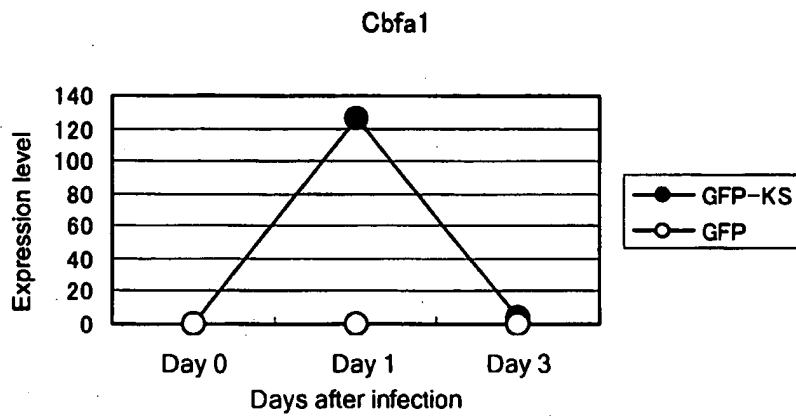
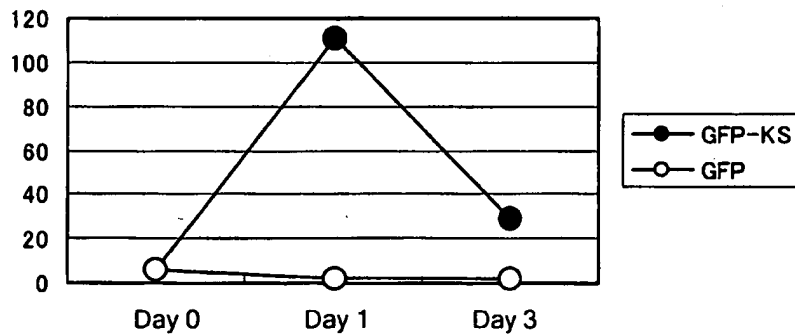


FIG. 12

A



12. HEMOPOIETIC CELL KINASE (HCK)



6.PLACENTAL GROWTH FACTOR (PGF)

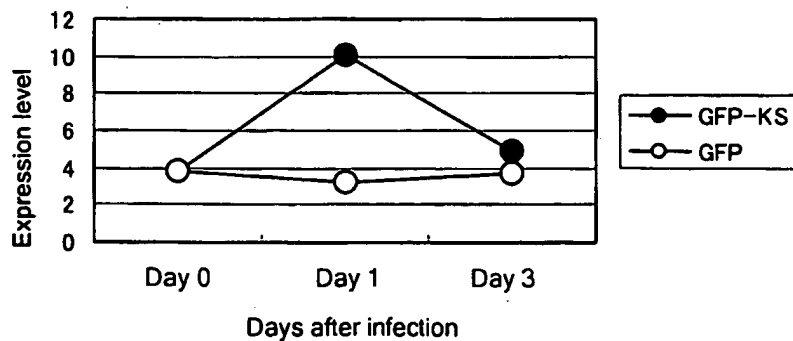
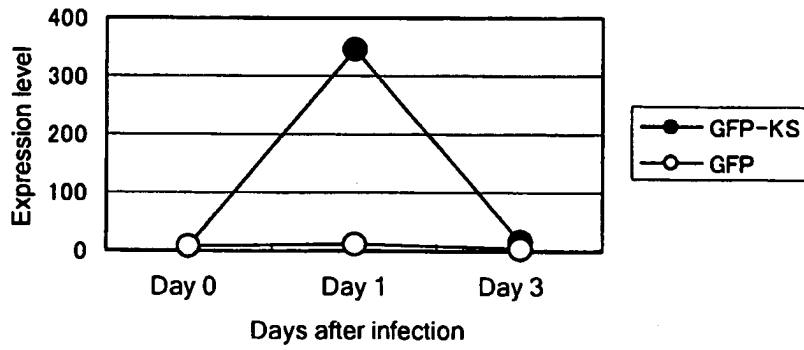


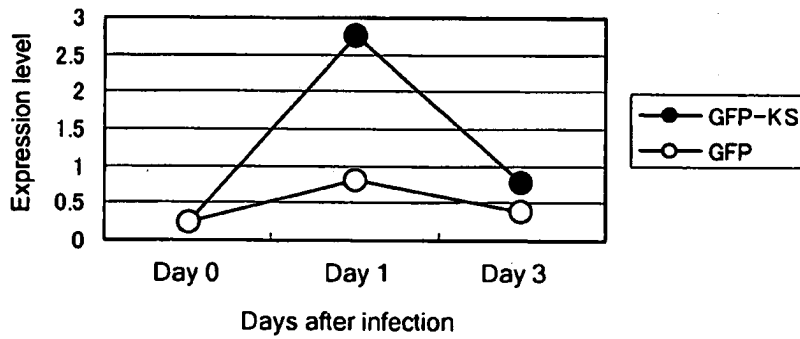
FIG. 12 (cont.)

B

8. BRP39 (chitinase-like gene)



6. Lysyl Oxidase-like Protein 2 (LOLP2)



GALNT3

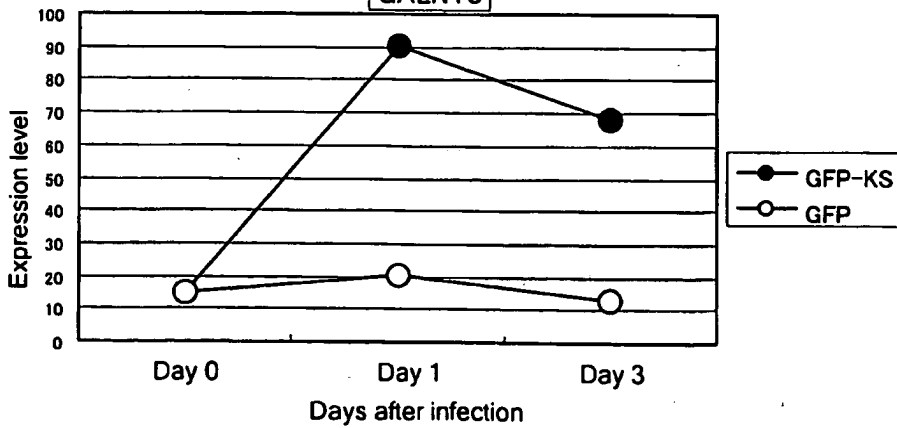
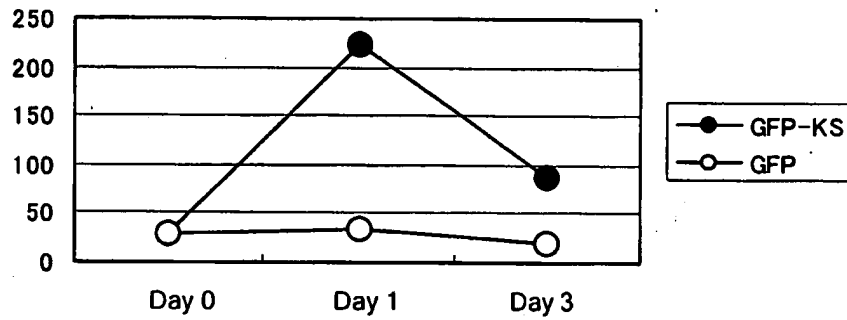


FIG. 12 (cont.)

C

13. WNT1 Inducible Signaling Pathway Protein 1 (WISP1)



5. Protein Tyrosine Phosphatase, Receptor-type, F interacting protein binding protein 2 (PPFI)

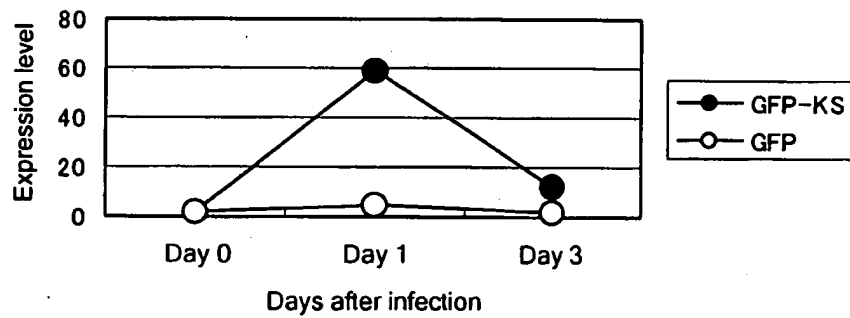


FIG. 13

A

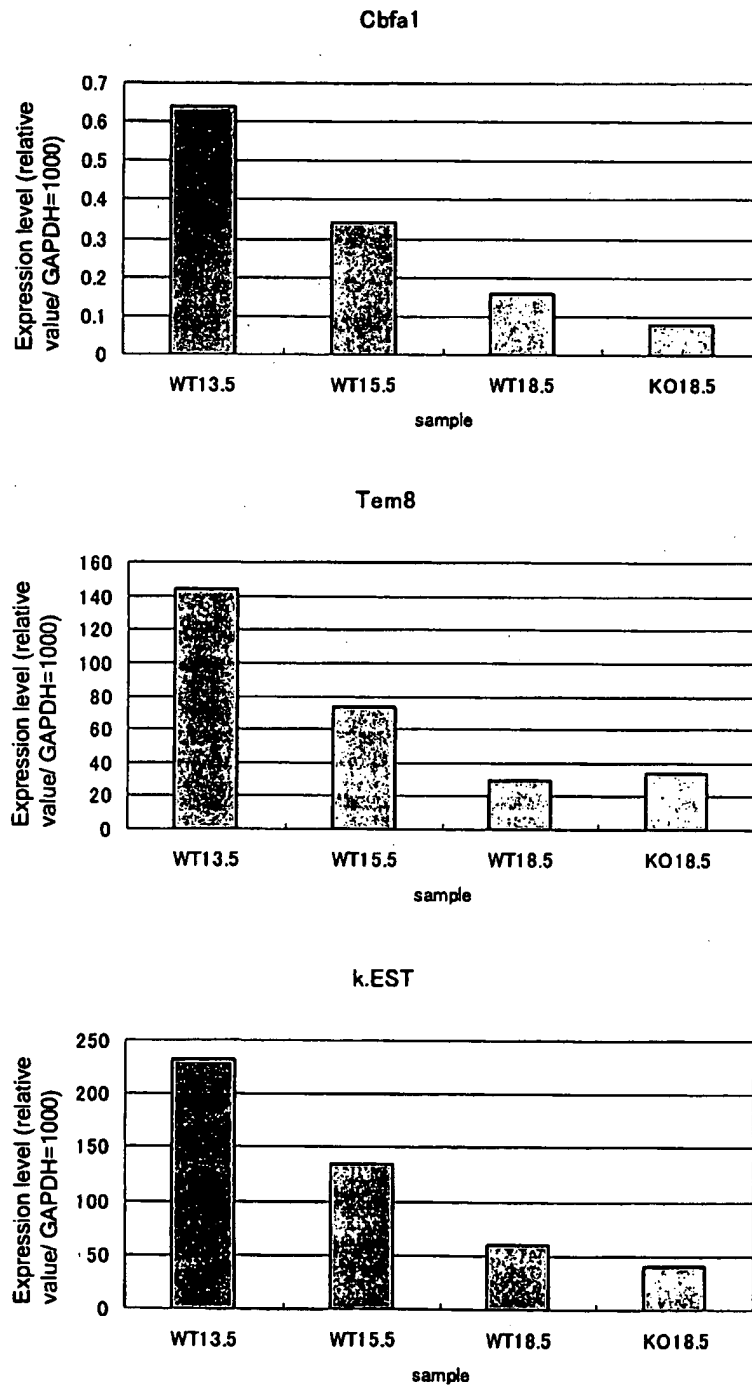
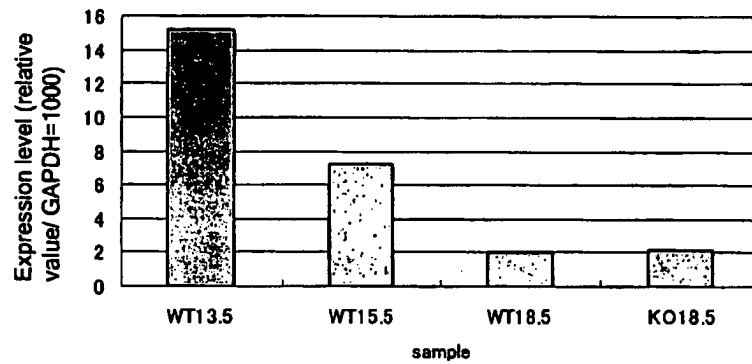


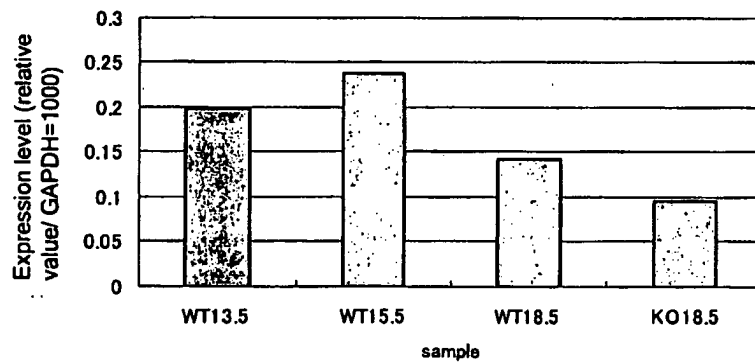
FIG. 13 (cont.)

B

MYB binding protein (P160) 1a



WISP2



Nopp140

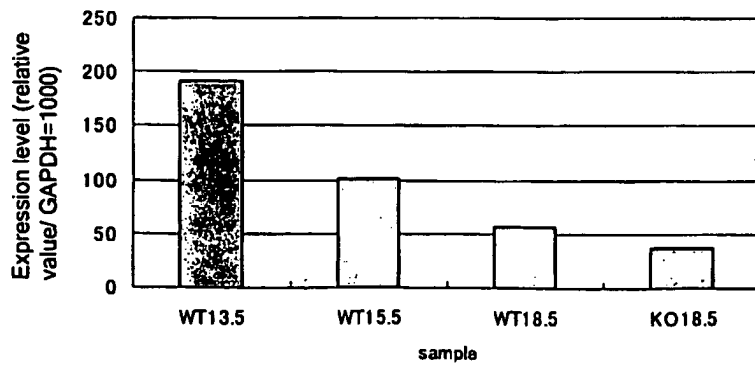


FIG. 14

A

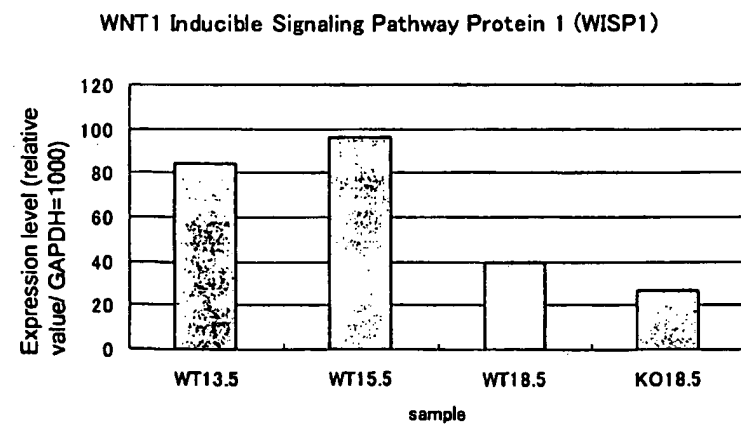
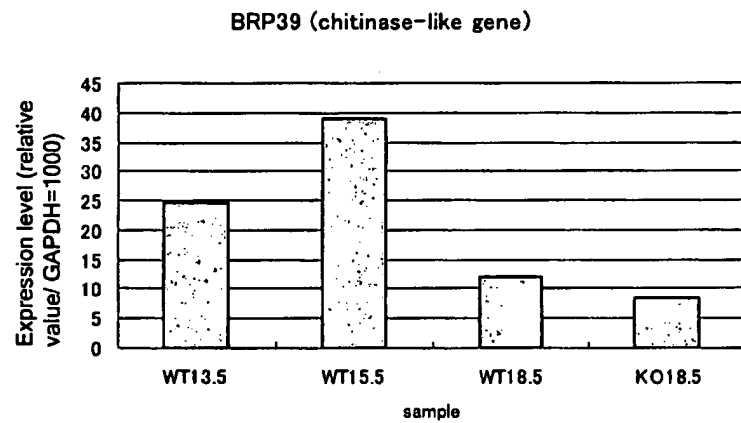
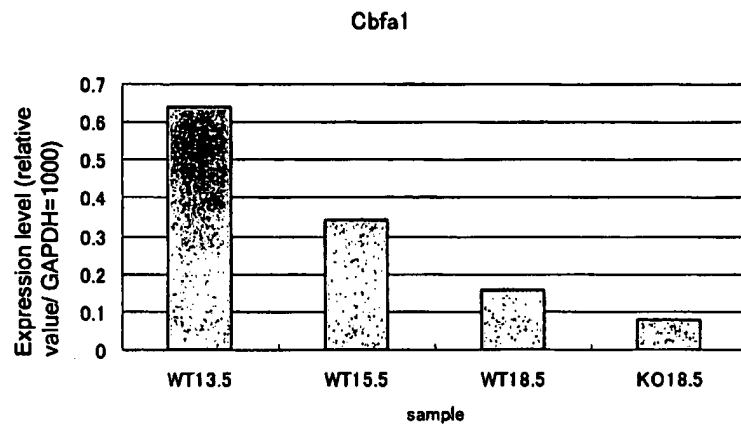
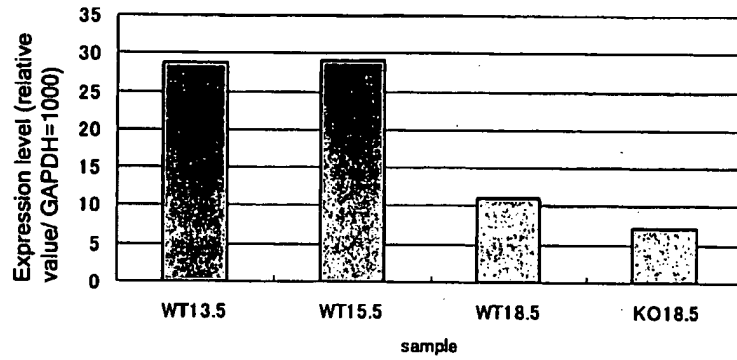


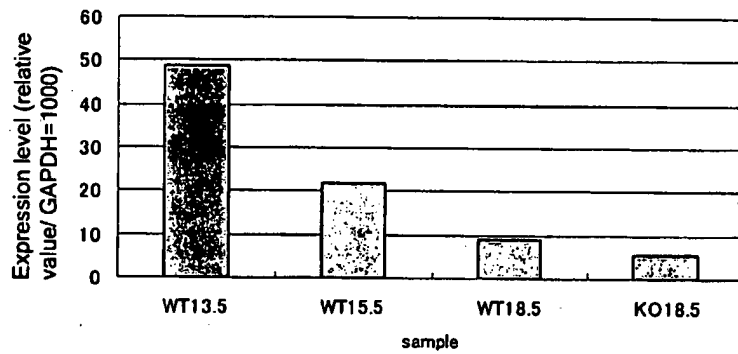
FIG. 14 (cont.)

B

Placental Growth Factor (PIGF)



Hemopoietic Cell Kinase(HCK)



Protein Tyrosine Phosphatase, Receptor-Type, F
Interacting Protein, Binding Protein 2 (PPFIBP2)

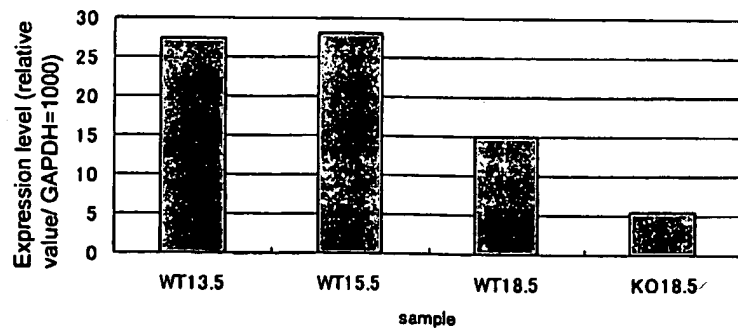
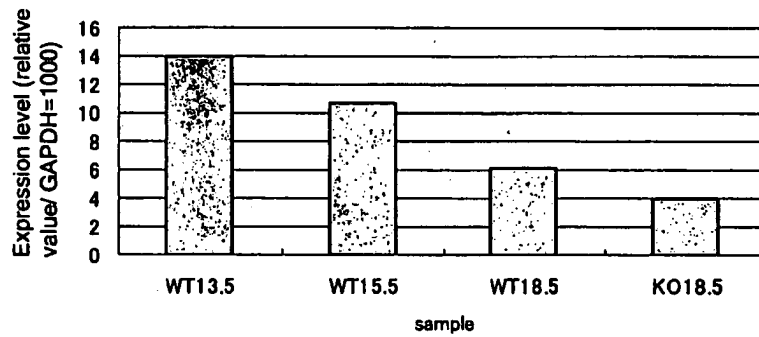


FIG. 14 (cont.)

C

UDP-N-ACETYL-ALPHA-D-
GALACTOSAMINE:POLYPEPTIDE N-
ACETYL GALACTOSAMINYLTRANSFERASE 3 (GALNT3)



Lysyl Oxiase-Like Protein 2 (LOXL2)

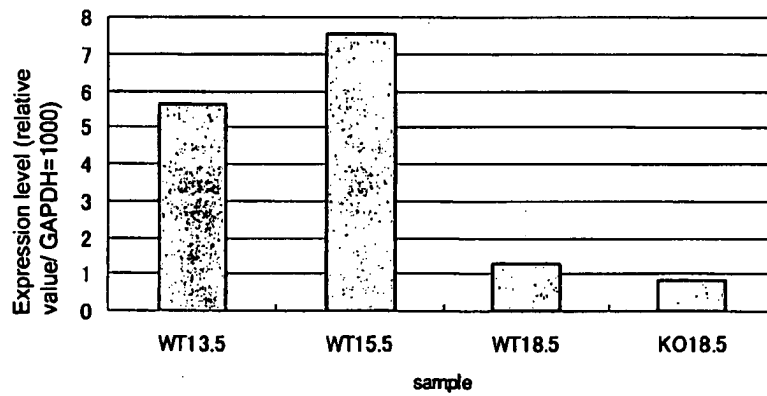
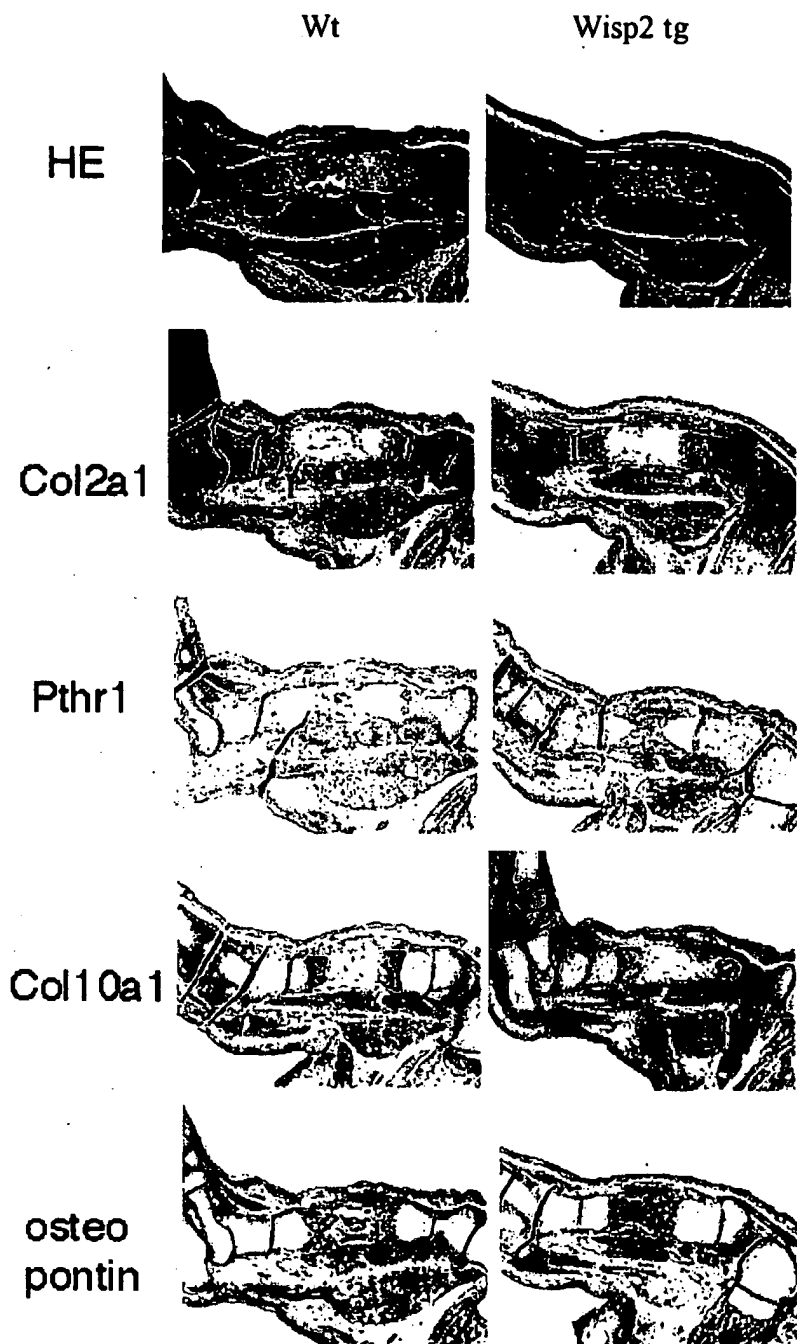


FIG. 15



Phenotypes of Wisp2 Tg mouse

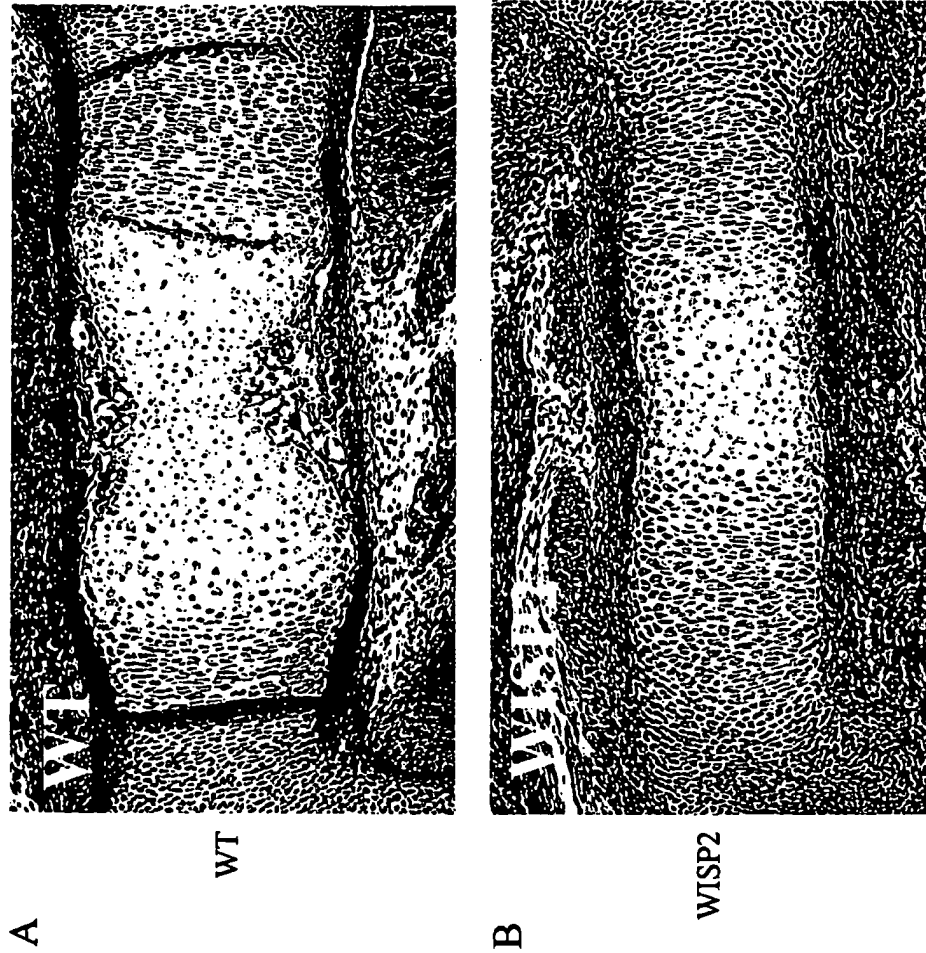


FIG. 16

FIG. 17
Phenotypes of Nopp140 Tg mouse
(E18.5)

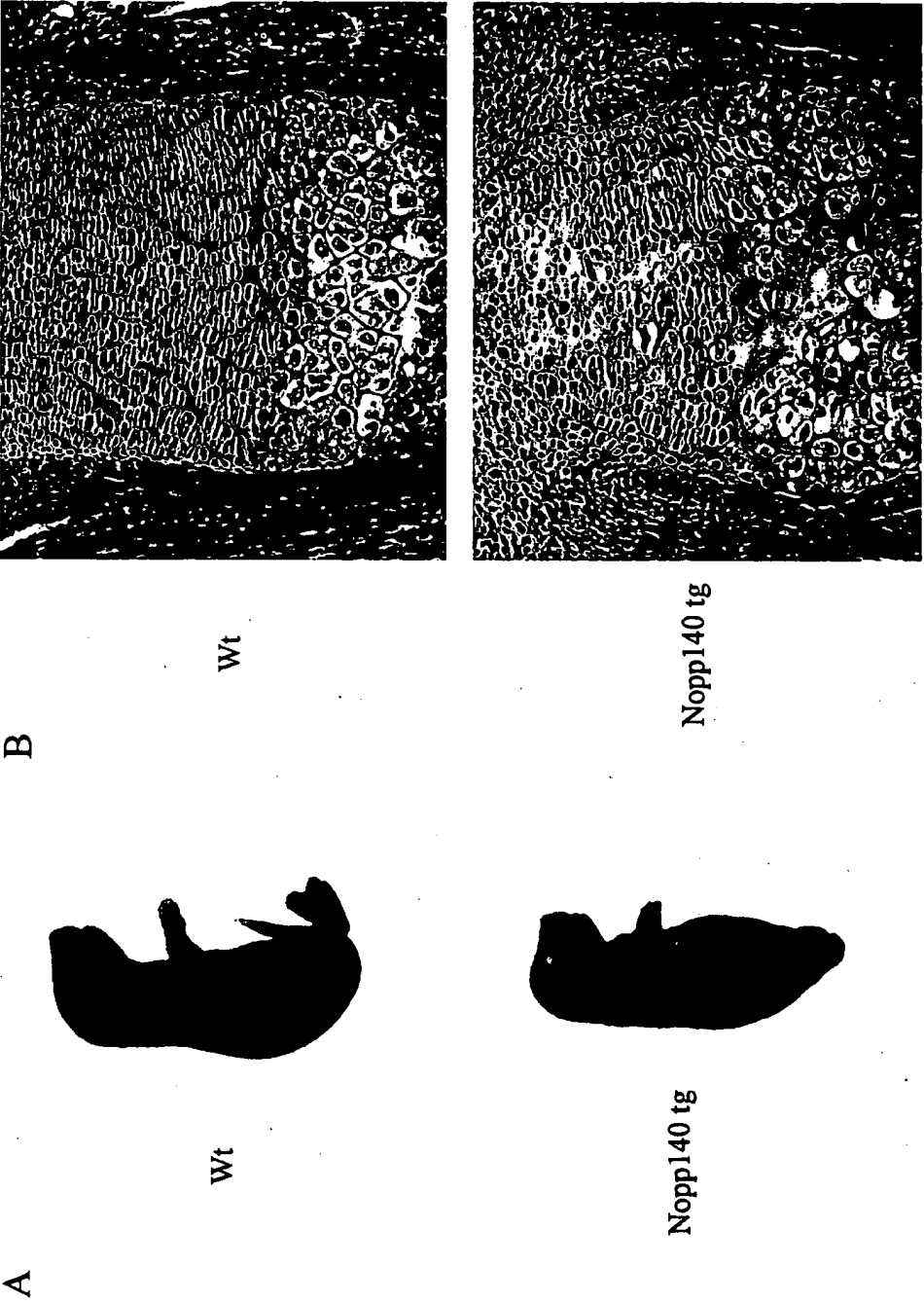


FIG. 18

Phenotypes of Tem8 Tg mouse
(E18.5)

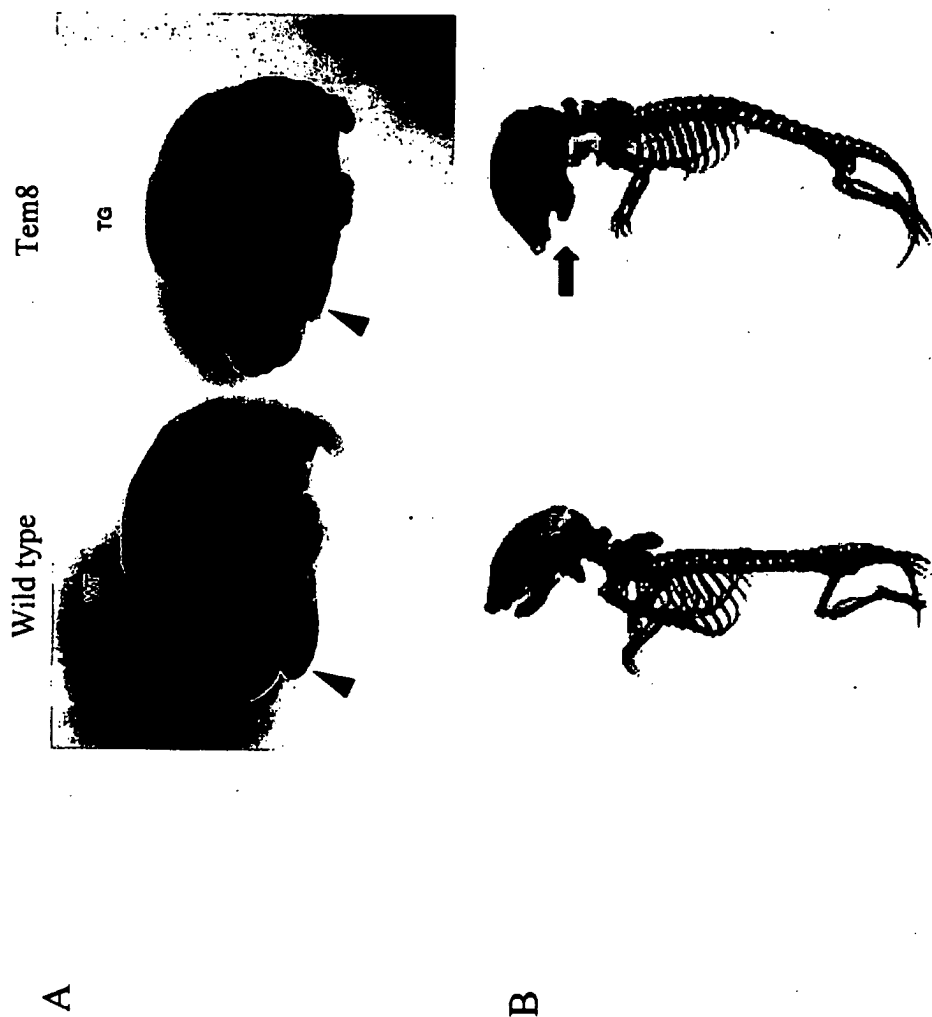


FIG. 19

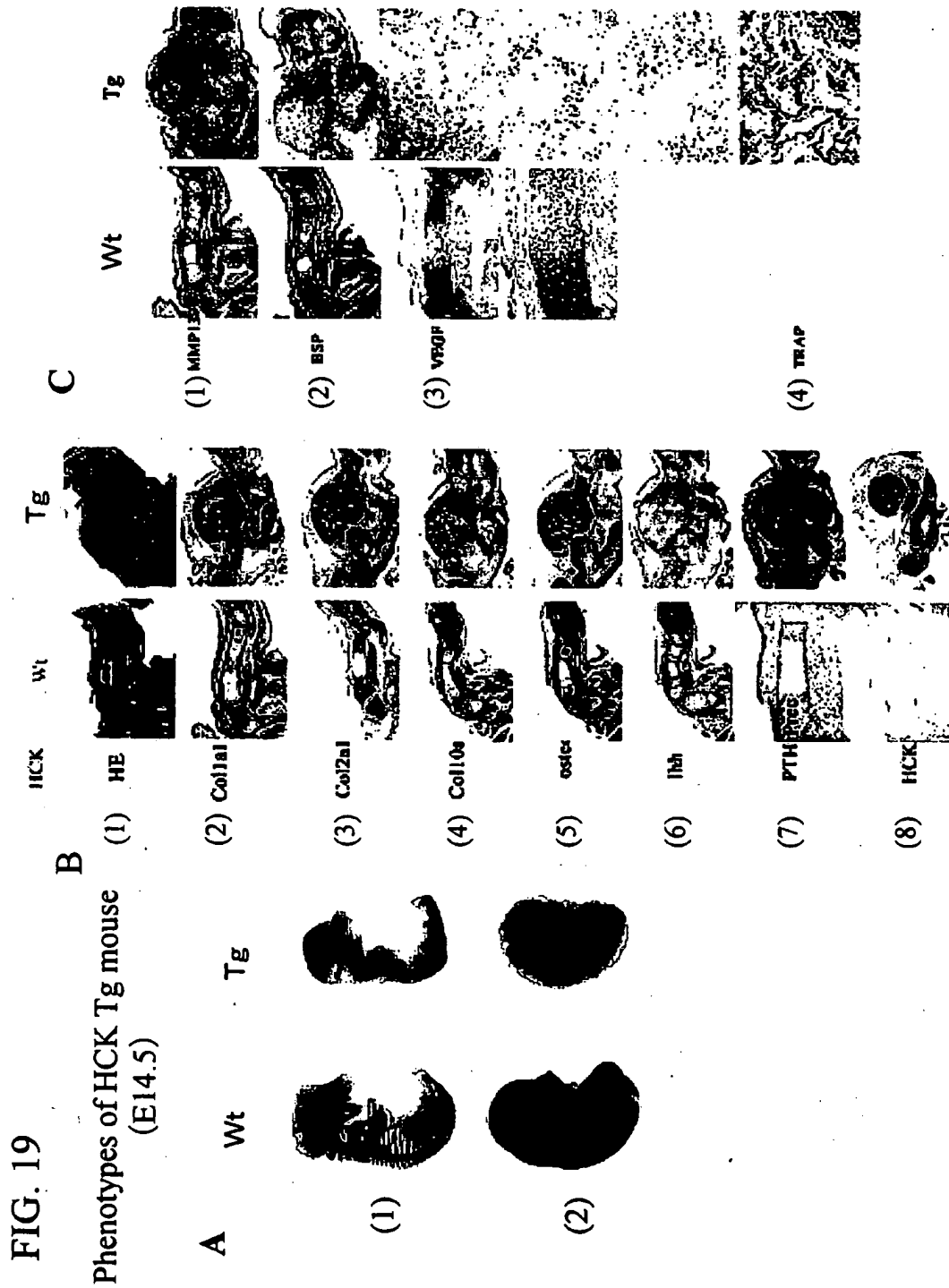


FIG. 20

Phenotypes of HCK Tg mouse
 (E16.5)

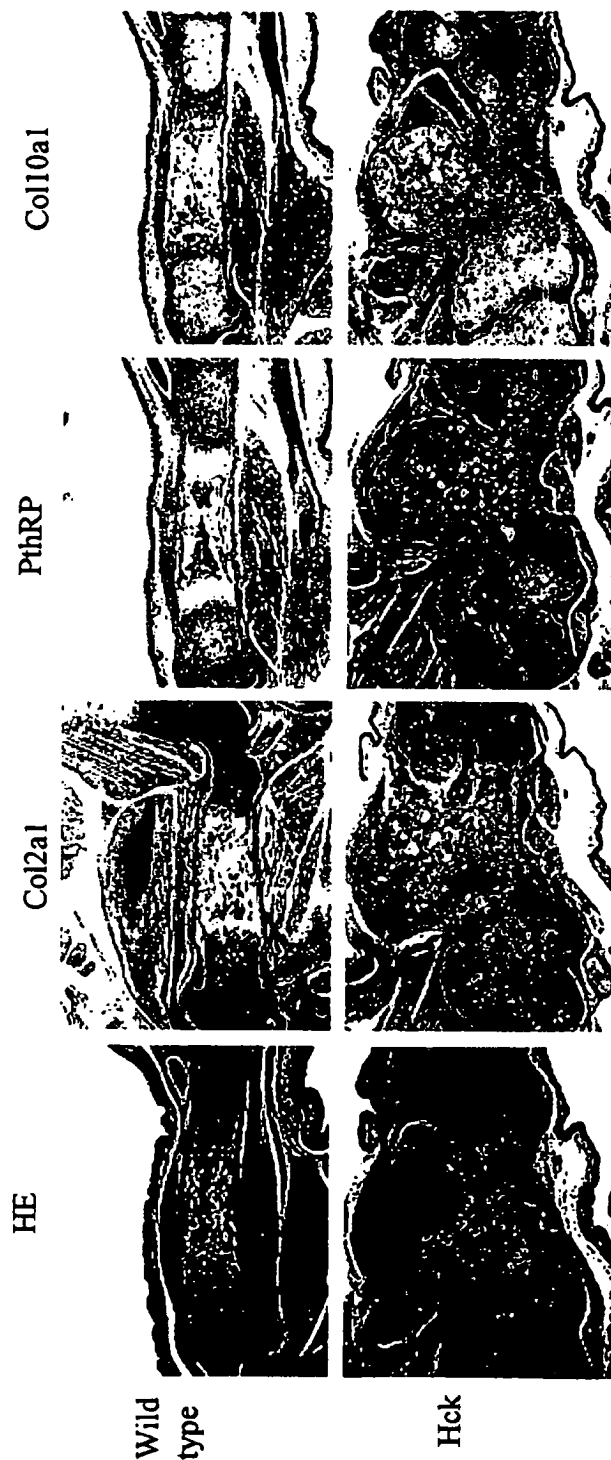


FIG. 21 Phenotypes of HCK Tg mouse (E18.5)

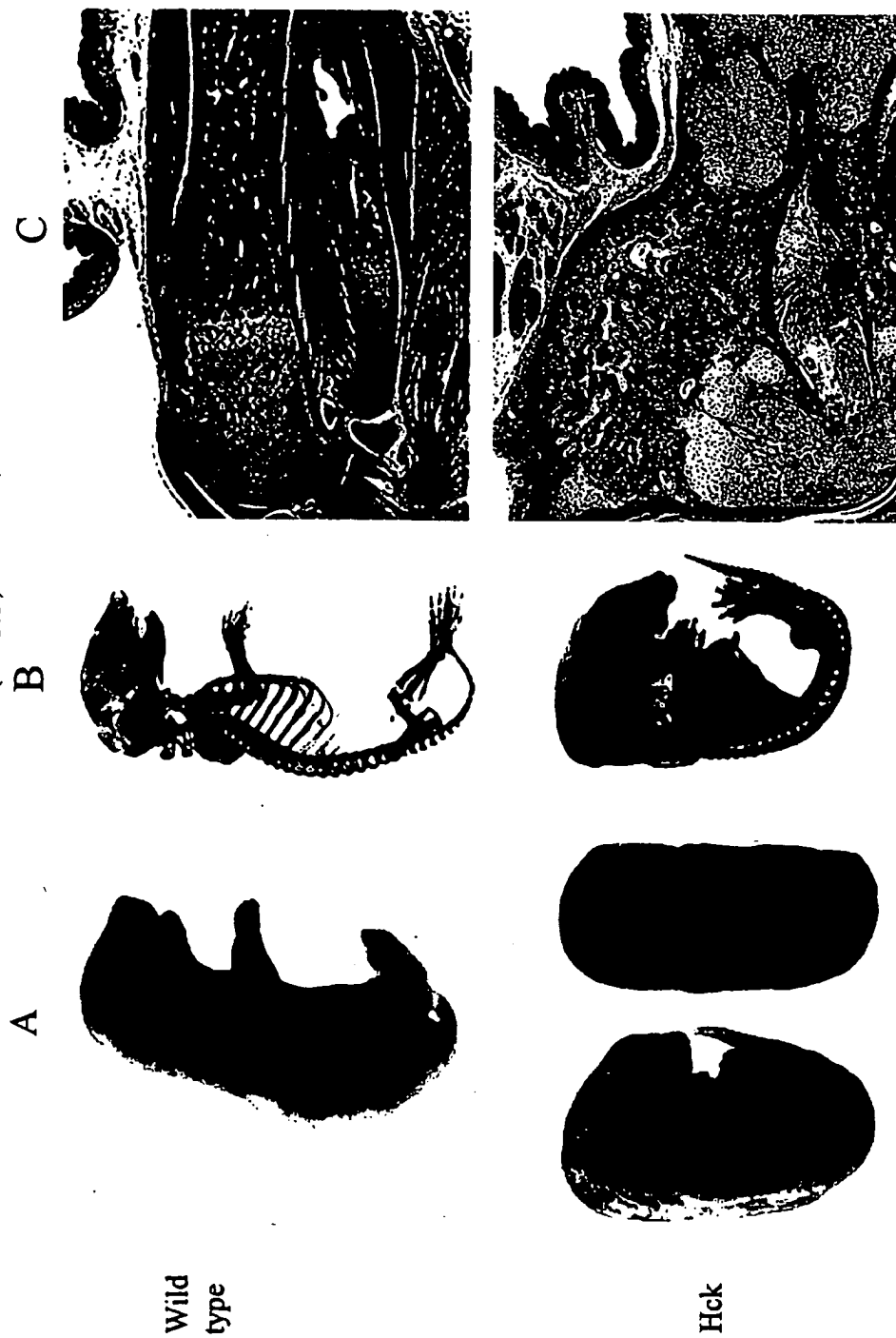
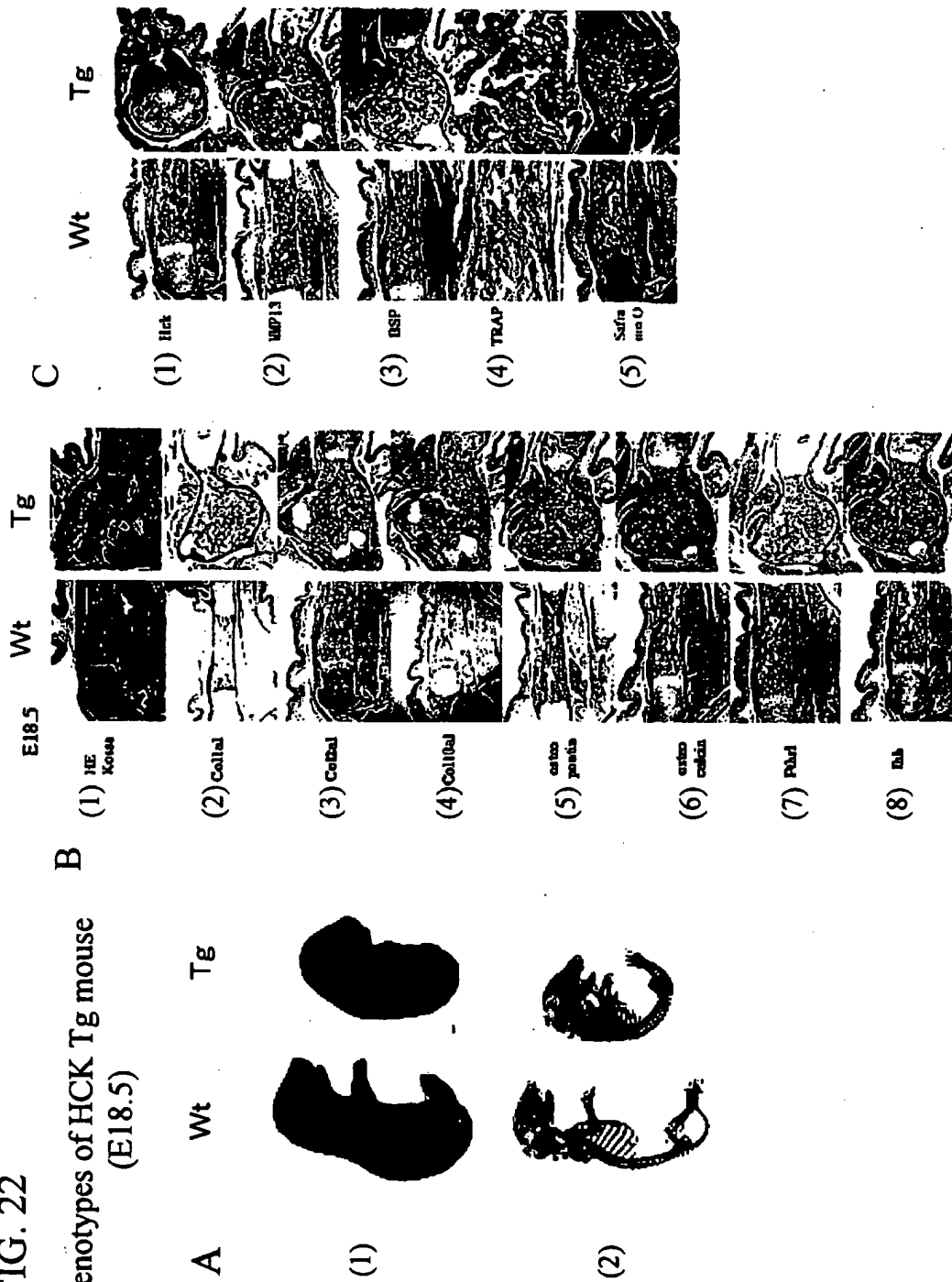


FIG. 22

Phenotypes of HCK Tg mouse
 (E18.5)



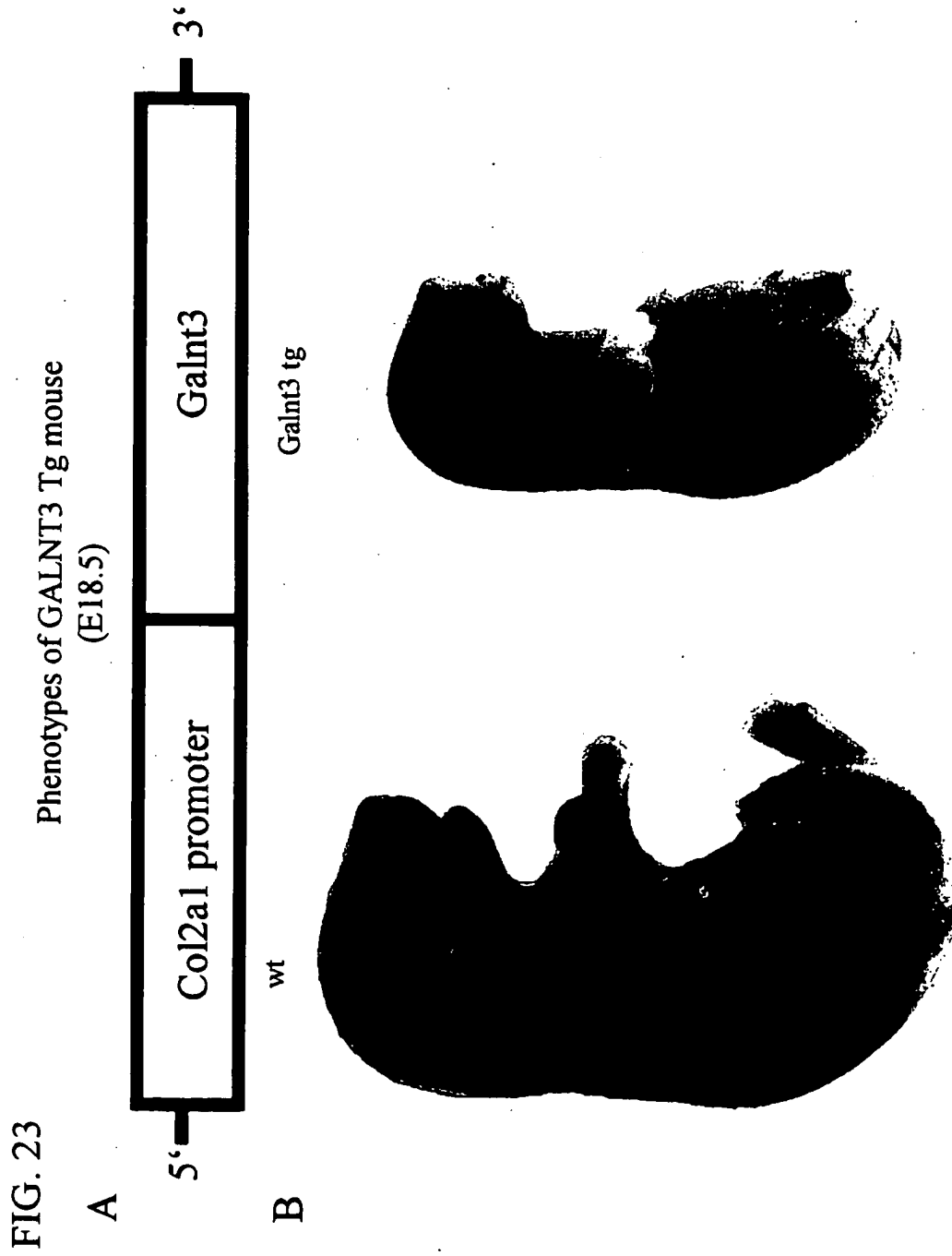


FIG. 24

Phenotypes of GALNT3 Tg mouse
(E18.5)

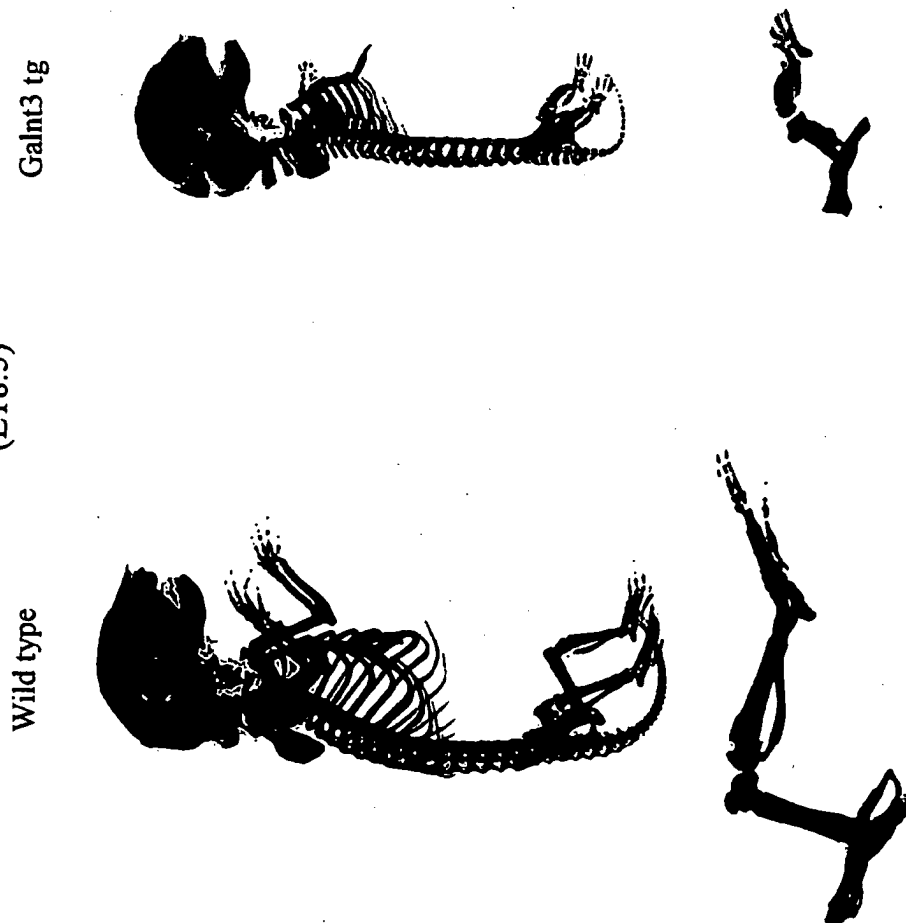


FIG. 25

Phenotypes of GALNT3 Tg mouse
(E16.5)

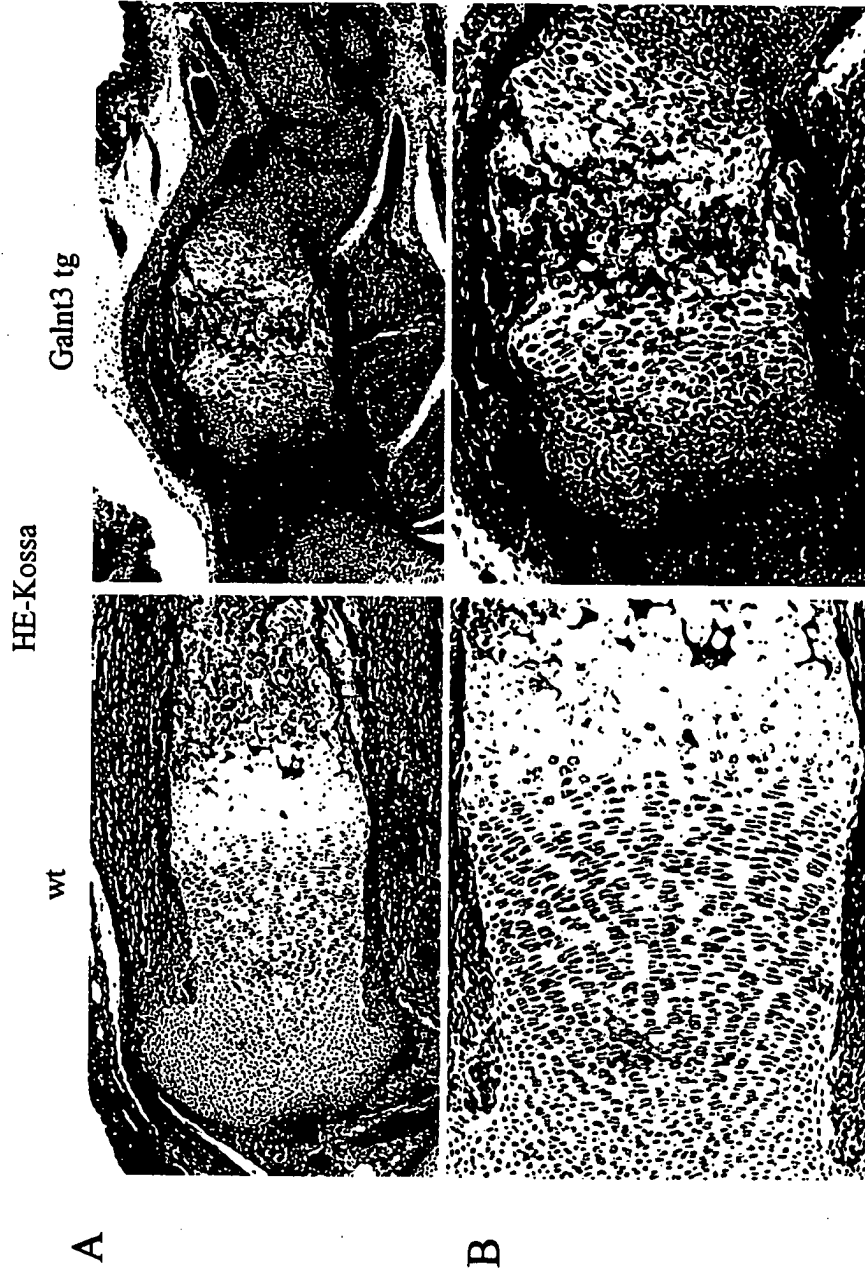
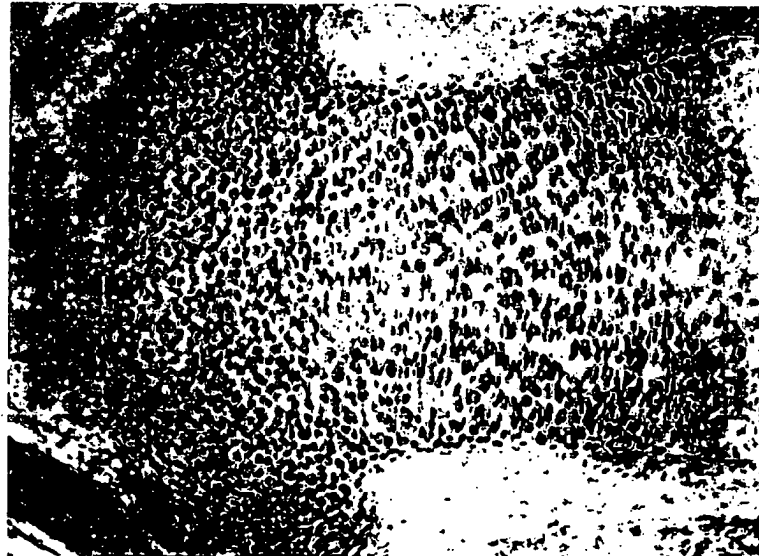


FIG. 26

Phenotypes of GALNT3 Tg mouse
(E16.5)

Col2a1

wild type



Galnt3 tg

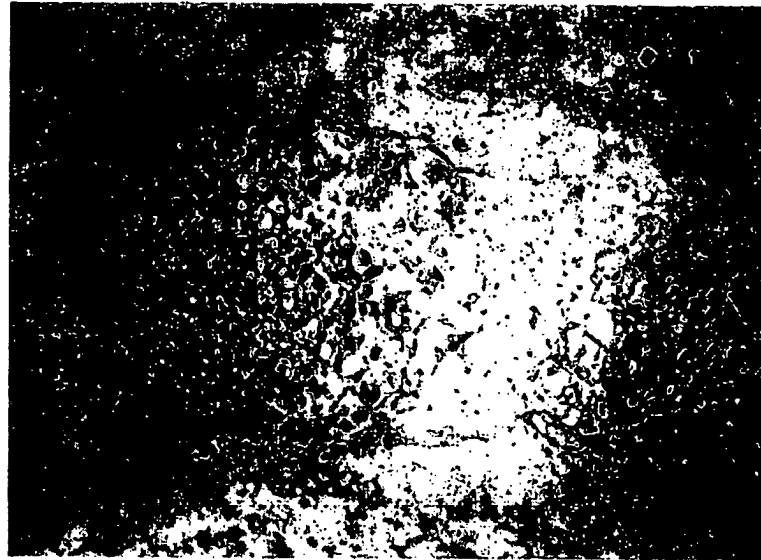


FIG. 27
Phenotypes of GALNT3 Tg mouse
(E16.5)
Coll10a1

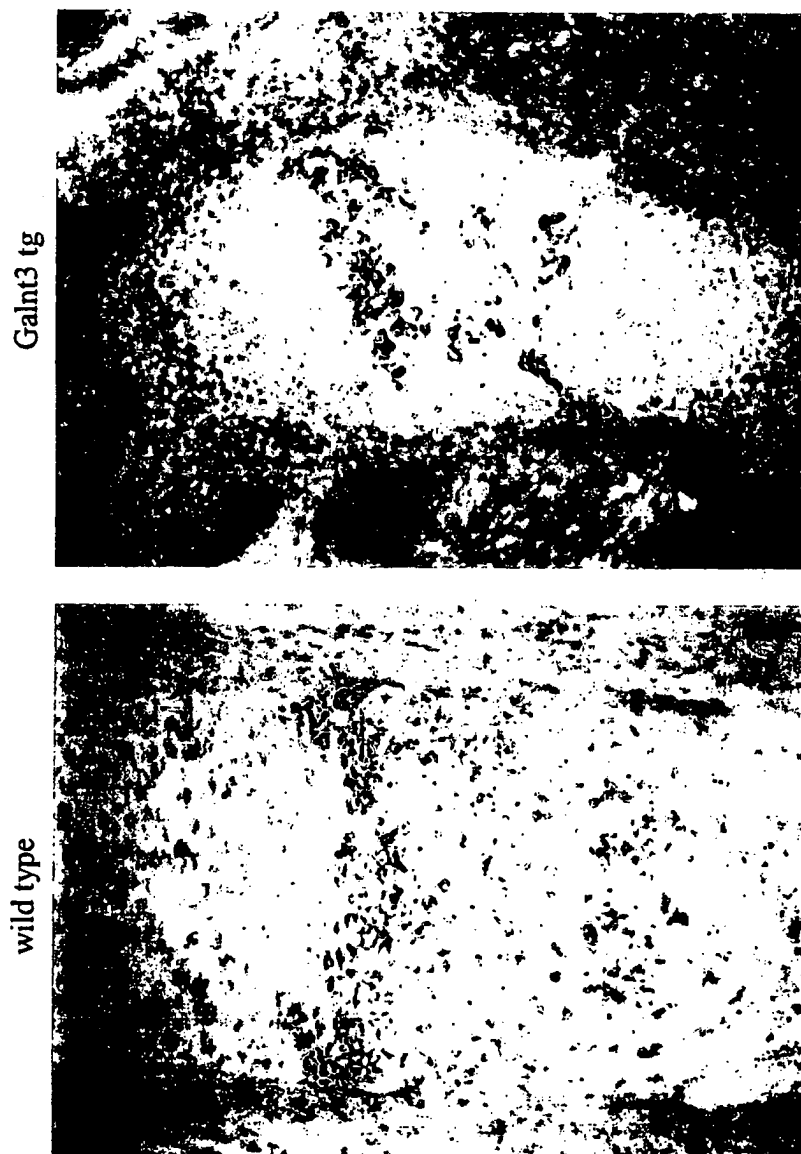
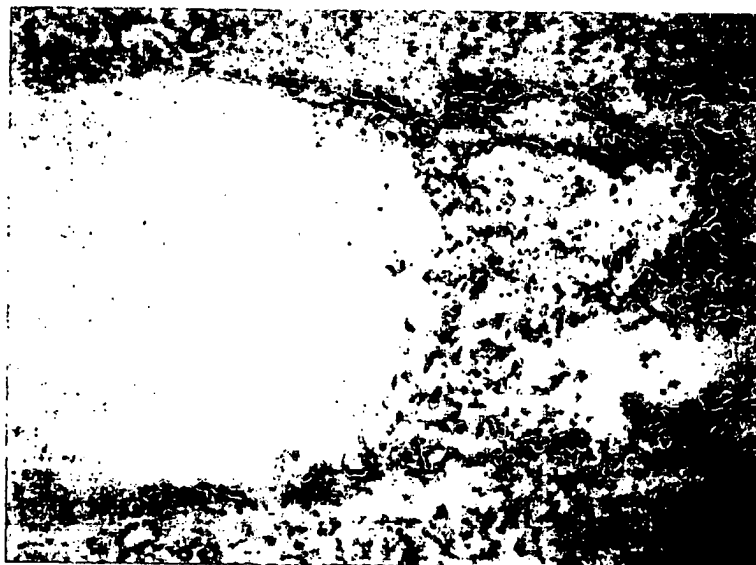


FIG. 28

Phenotypes of GALNT3 Tg mouse
(E16.5)

osteopontin

wild type



Galnt3 tg

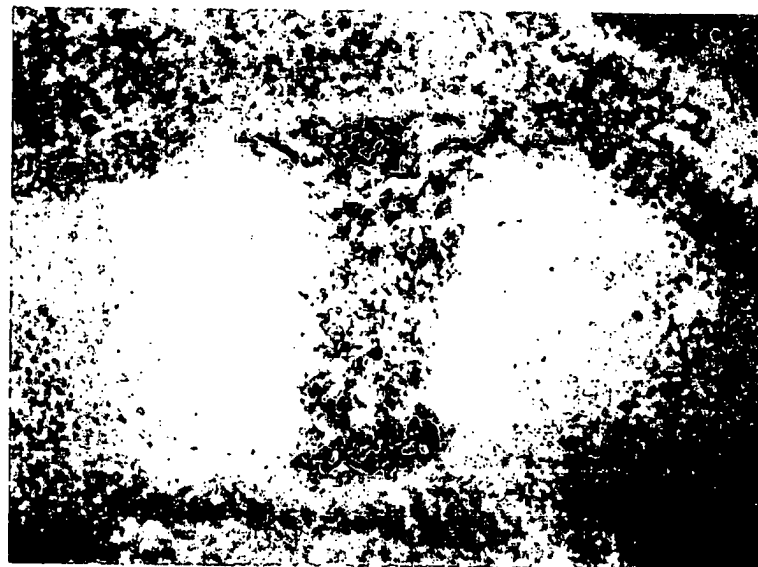


FIG. 29

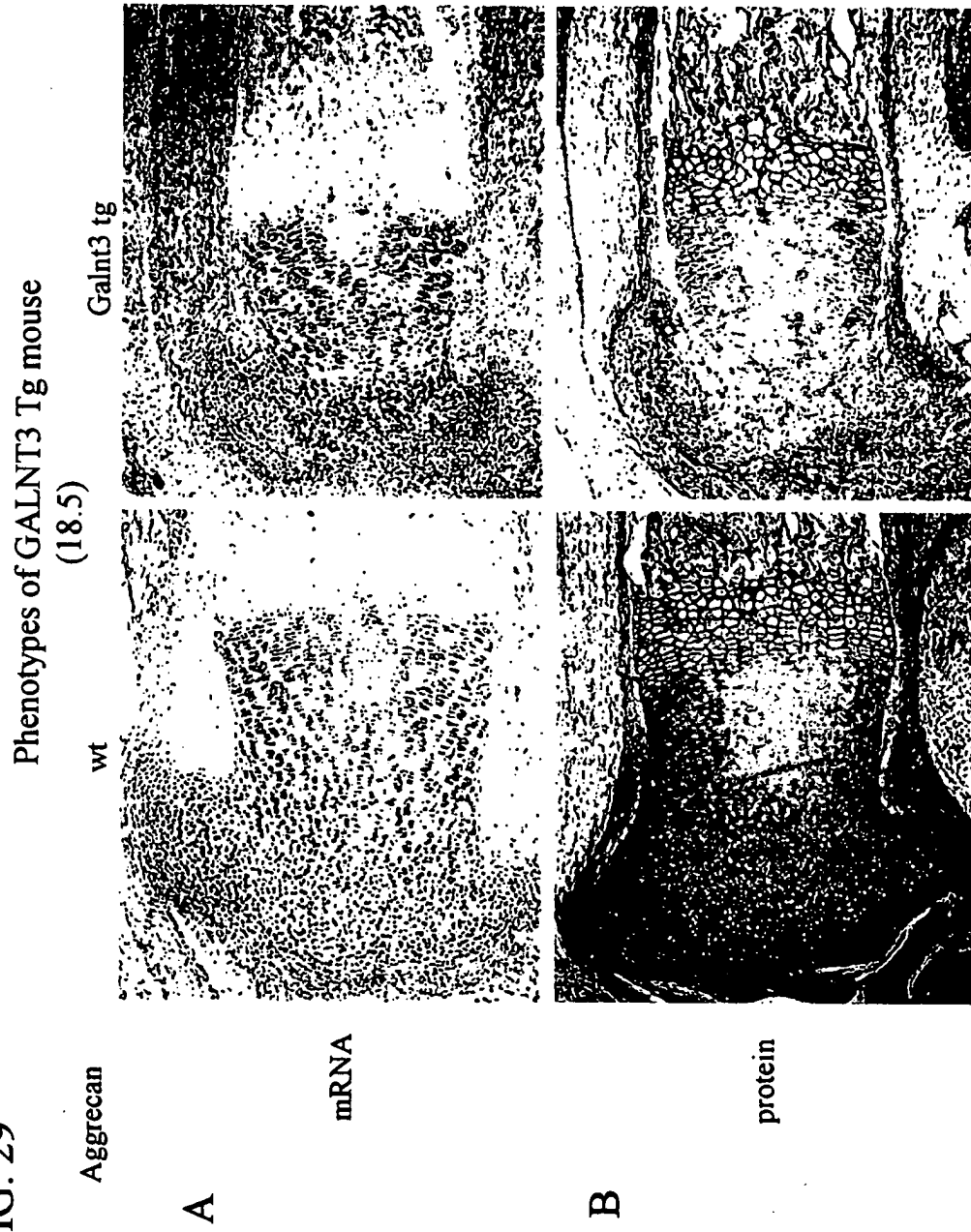


FIG. 30

Phenotypes of GALNT3 Tg mouse
 (E16.5)

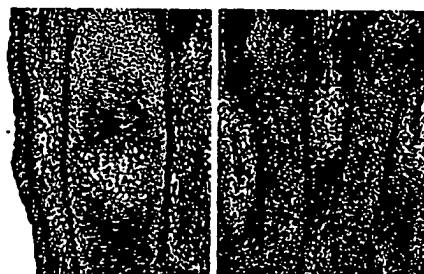
Safranin O



wild type



Galnt3 tg



wild type

Galnt3 tg

FIG. 31

Phenotypes of GALNT3 Tg mouse
(E18.5)

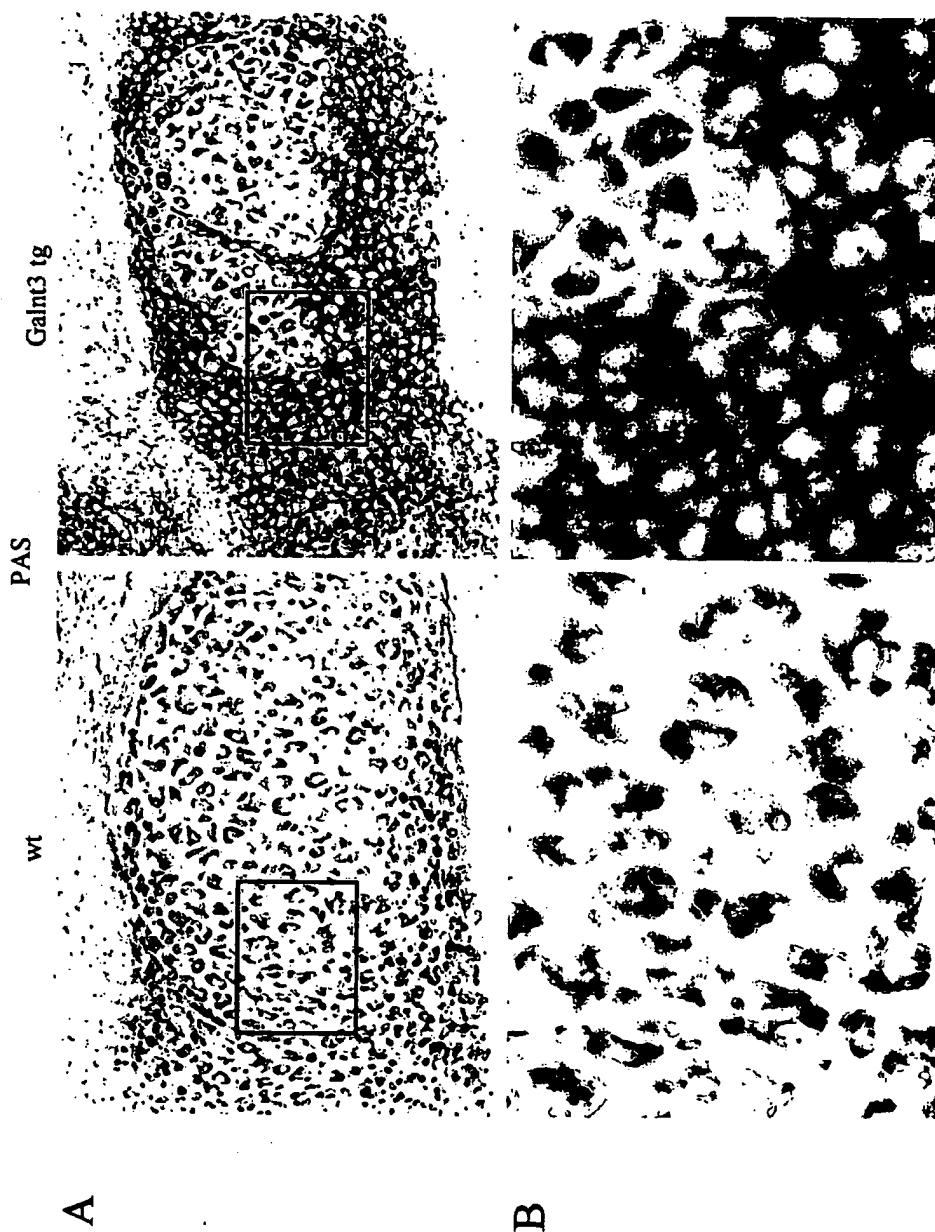


FIG. 32

Phenotypes of GALNT3 Tg mouse
(18.5)

Fibronectin

wt



Galnt3 tg

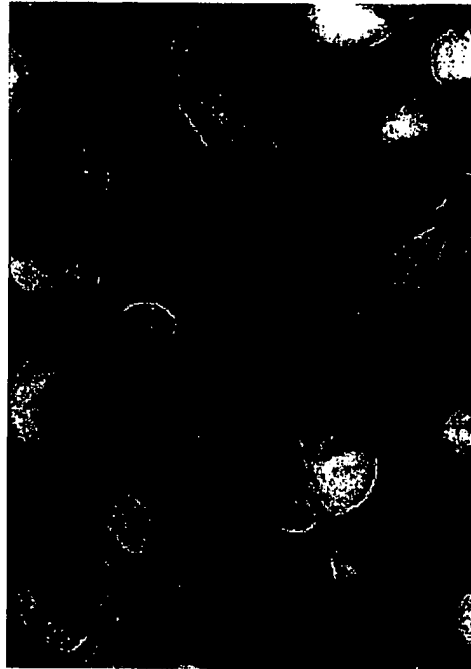


FIG. 33

Phenotypes of GALNT3 Tg mouse
(E18.5)

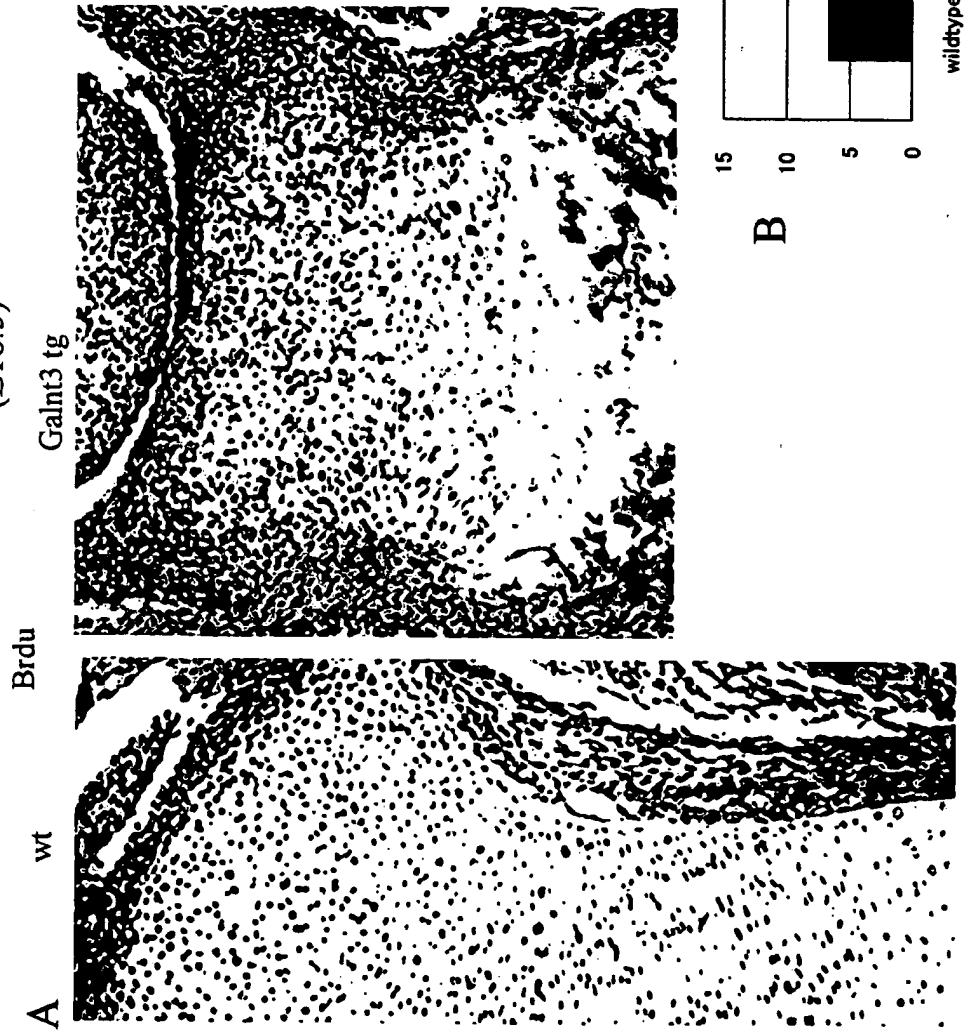
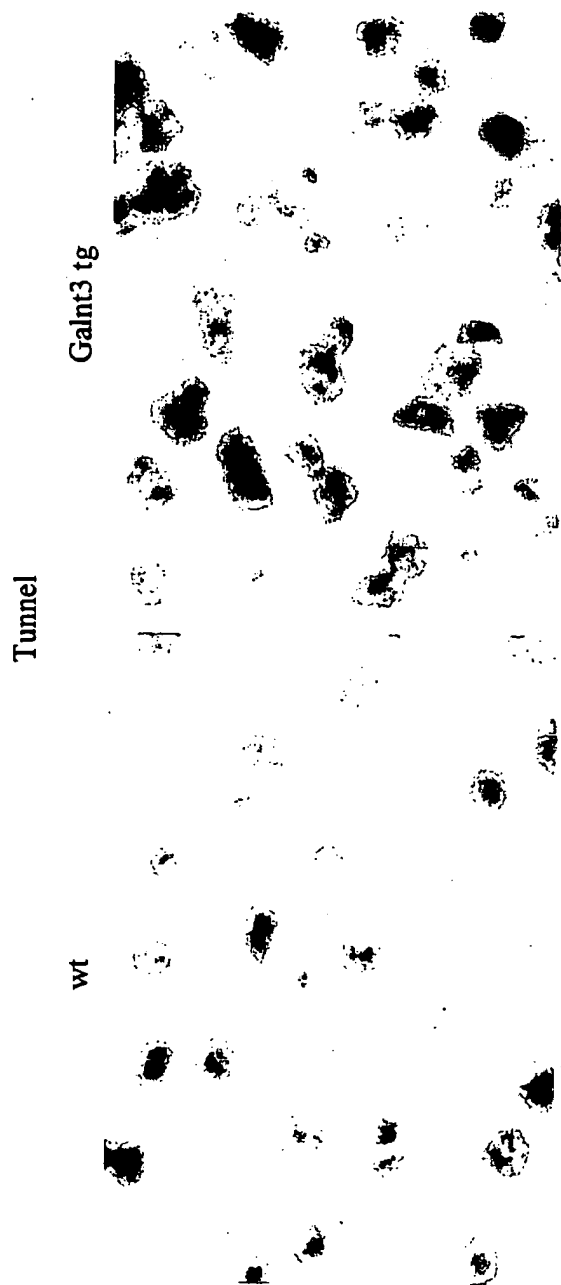


FIG. 34

Phenotypes of GALNT3 Tg mouse
(E18.5)



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